



A Weekly Journal of Pharmacy and the Drug-trade.

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THIS JOURNAL is regularly supplied by subscription to the whole of the Members of FIFTEEN PHARMACEUTICAL SOCIETIES in the British Empire. The associate Journal, *The Chemist and Druggist of Australasia*, published at Melbourne and Sydney, is also supplied to all Australasian subscribers.

Summary.

APPRENTICESHIP is a leading feature in this Number.

ARTICLES describing their own experiences are contributed by Messrs. Munbray, Newsholme, Martin, Druce, Stephenson, Boa, Taylor, and Lescher. The series begins on p. 132.

THE question has also been discussed in the provinces by Mr. Hutcheon at Edinburgh, and Mr. Noble, of Newcastle-on-Tyne (p. 174).

OUR comments on the subject are on p. 126.

MR. INCE this week shows how tragacanth emulsions should be made (p. 142).

MESSRS. LIONEL AND LE BLANC NEWBERY provide this week's cartoon (p. 124).

MESSRS. C. DELACRE ET CIE.'s new pharmacy in Brussels is figured on p. 159.

FURTHER correspondence in regard to opodeldoc shows that the question is not yet settled (p. 176).

MR. ALCOCK finds the use of caustic potash an improvement on lime in the assay of cinchona (p. 110).

A FAIR NUMBER of novelties and improvements in pharmaceutical products are described on p. 122.

MR. JOHN TAYLOR and Mr. Lord Gifford were the stars at the Blackpool chemists' dinner last week (p. 130).

AN ANCIENT CHARM, which was thought to be a prescription, is the subject of Mr. C. C. Bell's paper on p. 153.

THE PHARMACEUTICAL RELICS in the Nuremberg Museum are illustrated and described in an article on p. 149.

IN the case of *Bernhard v. the Erasmus Company*, the plaintiff has been awarded 2,250*l.* for wrongful dismissal (p. 167).

OUR TOWN TRAVELLER has varied his journey in London with visits to several of the houses in Edinburgh and Glasgow (p. 116).

SOME interesting practical notes are given by Mr. Frost on bee-keeping, which he thinks is a suitable hobby for pharmacists (p. 109).

THE case of *Treath v. Samuelson* was commenced at the High Court on Tuesday. Some peculiar revelations have come out (p. 166).

MR. EDGAR COHEN, the Houndsditch sponge merchant, is in no way connected with the bank-breaking syndicate at Monte Carlo (p. 177).

PARLIAMENT promises very little directly connected with pharmacy this Session, and indeed, little of anything, except increased taxation (p. 173).

UNDER British Pharmacy in India we describe the pharmacies of Messrs. Stanistreet & Co., E. Plomer & Co., W. C. Kidd, C. J. Milne, and J. B. Foster & Co. (p. 144).

OUR PARIS CORRESPONDENT has made a tour of the Grands Boulevards, and contributes a chatty and well-illustrated article on the pharmacies which are there (p. 156).

OUR special South African correspondent has journeyed to Johannesburg and back, and describes what he saw. The chemists in the Transvaal are reticent as to business (p. 160).

MESSRS. OGSTON AND MOORE, in a paper on the chemical and physical constants of bergamot, lemon, and orange oils, communicate a number of useful figures, this year's crop being included (p. 154).

EMERALD GREEN has been held by the Leeds Magistrate to be a preparation of arsenic, and Taylor's Drug Company have been fined for selling it contrary to the provisions of Section 17 of the Pharmacy Act (p. 167). See also note on p. 127.

THE only change of any importance this week has been a reduction in cocaine. Hypophosphites are weak owing to price-cutting on the part of German makers. Senega is tending firmer (p. 173). A full report of the drug-sales will be found in our coloured supplement.

THE NEWS OF THE WEEK up to Wednesday (when this section of *THE CHEMIST AND DRUGGIST* went to press) included the following items:—Institute of Chemistry examination-questions, and the report of an inquest on a child at Sheffield in which an "infants' preservative" was implicated. Mr. H. Vincent Johnston has been co-opted a member of the Irish Council. Our Glasgow correspondents contribute various local items to the Scotch collection. The Court of Session has upheld the judgment of Sheriff Guthrie, of Glasgow, in the claim of Mrs. Weatherston against her husband's estate. For Thursday's news see Coloured Supplement.

Corner for Students.

CONDUCTED BY LEONARD DOBBIN, PH.D.

REPORTS.

THE powder distributed to students on December 24 contained 3 parts of ferrous oxalate, 2 parts of barium oxalate, and 1 part of ammonium oxalate.

The calculated composition of such a mixture is—

Fe	15.6
Ba	18.8
NH ₄	4.2
C ₂ O ₄	46.8
H ₂ O	14.6
	<hr/>
	100.0

The powder also contained, as impurities, somewhat considerable traces of strontium and calcium and of the sulphuric-acid radical, also an exceedingly minute trace of chloride.

Samples of the powder were distributed to 54 students, and 27 reports were submitted for examination.

All our correspondents succeeded in detecting iron and ammonium, 11 failed to detect barium, 3 failed to detect the oxalic-acid radical, while 5 did not make any mention of water. No single correspondent reported all the impurities mentioned above.

Containing, as it did, a small quantity of the sulphuric-acid radical along with a barium salt, the powder did not dissolve completely when boiled with dilute hydrochloric acid. The insoluble residue, although small in quantity, was not specially inconspicuous, yet it entirely escaped the observation of all except five of our correspondents, and of these only two succeeded in penetrating the secret of its composition—the one by direct examination, the other indirectly. It is true that some delicacy of treatment was necessary in order to detect barium and the sulphuric-acid radical with certainty in the small quantity of insoluble residue available for examination; but the delicate handling of traces, with a view to determining their chemical composition, is one of those arts which the student must aim at attaining if he wishes to excel as an analyst. As to the procedure in the present case, it was best to collect the residue on a small ashless filter-paper, thoroughly wash and dry it there, incinerate the filter on platinum foil, fuse the residue with several times its weight of pure potassium and sodium carbonates (fusion mixture), and extract the fused mass with water. The aqueous extract, after acidulation with dilute hydrochloric acid, gave a distinct white precipitate of barium sulphate on the addition of barium chloride. The portion of the fused mass which did not dissolve in water was dissolved at once on the addition of a drop of dilute hydrochloric acid, and the acid solution so obtained gave the flame coloration and other reactions characteristic of barium.

The numerous failures to detect barium in the powder were chiefly due to failure to destroy the oxalates present by evaporating the acid solution to dryness after the addition of hydrogen sulphide, and igniting the residue. The neglect of this precaution led to the precipitation of barium oxalate along with ferric hydroxide (or ferrous sulphide) on the addition of excess of ammonia (or of ammonia and ammonium hydrosulphide). A number of students report that no precipitate was formed when ammonium carbonate was added to the filtrate from the iron group—a result which clearly indicates that the precipitation of the barium as oxalate, along with the iron, had been practically if not quite complete.

The only other serious analytical pitfall presented by this month's exercise was the rather sparing solubility of the precipitate of silver oxalate in dilute nitric acid. Failure to add the latter reagent in sufficient quantity to dissolve the whole of the silver oxalate, led several correspondents to suppose that chloride was present in quantity, whereas only a trace was really present. The chlorine which one or two report as evolved on heating the powder with black manganese oxide and concentrated sulphuric acid is almost certainly to be attributed to impurity in the black oxide.

We would impress upon all our correspondents the importance of including in their reports the summary of the results of each analysis, which is asked for in the announcement of each fresh analytical exercise. Reports not infrequently contain statements which are to some extent contradictory with respect to the probable presence of certain metallic or acid radicals; and if the writers do not add a summary of conclusions, in which they state their final views regarding the presence or absence of these radicals, there is room for doubt as to what their views may be, and marks are lost which perhaps need not have been lost but for this neglect.

PRIZES.

The First Prize for the best analysis has been awarded to
H. LONGSTAFF, 223 Saltwell Road, Bensham, Gateshead-on-Tyne.

The Second Prize has been awarded to

JOHN G. MURDOCH, c/o Wilkinson & Simpson (Limited),
Newcastle-on-Tyne.

First Prize.—Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Second Prize.—Any scientific book which is sold for about five shillings may be taken as a second prize.

The students to whom prizes are awarded are requested to write at once to the Publisher naming the book or books they select.

MARKS AWARDED FOR ANALYSES.

H. Longstaff (1st prize) ...	97	Mitosis	80
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		J. H. Williams	28

TO CORRESPONDENTS.

ALGOL.—We are rather at a loss to understand why the hydrochloric acid solution of part of the residue left on igniting the powder failed in your hands to yield a red coloration with ammonium thiocyanate, while the nitric acid solution of another part gave the reaction. We found both solutions to behave alike in this respect.

S.V.R. (Newcastle-on-Tyne), TALC, FLORA McDONALD, and many others.—The method of testing for strontium in the precipitate of barium-group carbonates, by dissolving in acetic acid, removing the barium as chromate, and then adding ammonium sulphate to the filtrate, is not sufficiently delicate to reveal the presence of such traces of strontium as were contained in the present powder, unless special precautions are taken. Even at best the method is a very poor one, as strontium sulphate is quite appreciably soluble in water.

GLACIALINE.—It is a pity that you did not make an attempt to determine the composition of the insoluble residue. See general remarks for a description of the way in which it might have been examined.

W. H., A.-in-M.—We do not understand how you and several other correspondents obtained evidence which led you to conclude that only traces of barium were present in the powder. You will

observe that nearly one-fifth of the whole was barium. Perhaps you applied your test for barium to a solution which had been very much diluted, or which only represented a very small quantity of the original powder. We fancy the sulphuric and hydrochloric acid radicals which you report present in quantity are due to impurities in your sodium carbonate.

EDINBURGH.—We have not been able to confirm your experience with respect to the absence of ammonium from the aqueous solution. Solutions prepared both with hot and with cold water alike yielded ammonia in abundance when boiled with sodium hydroxide.

FILIX MAS.—Aim at making your examination exhaustive. You do not describe any tests for magnesium, potassium, sodium, or lithium. After dissolving the iron-group precipitate in hydrochloric acid, and adding potassium hydroxide in excess, any chromium would be in the solution, not in the precipitate. The formula for barium chloride is not Ba_2Cl_6 .

MANNA FLAKE.—The white fumes you observed on heating the powder with sulphuric acid were due to the acid itself. Read the first two sentences of the reply to "Filix Mas."

S. V. R. (DAVENPORT).—If the darkening observed on heating the powder had been due to the presence of citrate it would have been accompanied by the characteristic "burnt-sugar" smell; but this was altogether absent. All the reactions which you attributed to the presence of citrate were really due to oxalate.

ALOES.—You should have applied some confirmatory test to the precipitate you supposed to consist of zinc sulphide. Had you done so you would have been led to a more accurate conclusion respecting it. Chloroplatinic acid should only be employed to test for potassium in solutions from which all metallic radicals except sodium, lithium, and potassium have been removed.

NEMO and TANGLEWOOD.—You added potassium chromate to a hydrochloric-acid solution of the powder, and, not obtaining any precipitate, concluded that barium was absent. Note, however, that barium chromate dissolves in hydrochloric acid, and therefore could not have been precipitated.

SPIROGYRA.—Elaborate descriptions of how film and match tests are carried out are not required. Short statements of the results of the tests are all that is necessary. The disagreeable odour you observed in the caecodyl (not Caecodyl's) test for acetate was probably due to cyanogen from the decomposition of the ammonium oxalate.

STUDENTIOR.—You do not report any attempt to ascertain whether the precipitate of iron-group hydroxides contained either aluminium or chromium. It was rather a thoughtless proceeding to test for carbonate in the solution prepared for the examination for acid radicals by boiling the powder with sodium carbonate; but it was quite unpardonable to find that this solution did not contain any carbonate.

ANGUS SCOTT.—The pungent vapours you observed on treating the powder with dilute hydrochloric acid (and presumably heating) were, doubtless, simply due to the volatilisation of part of the acid you had added. It is not possible to determine by mere inspection of a precipitate, which obviously consists largely of ferric hydroxide, that it may not also contain aluminium or chromic hydroxide: a separation must be made. Chloroform dissolves chlorine and yields a yellowish solution; possibly it was such a solution that you mistook for a solution of bromine in chloroform.

TABLOID.—We have endeavoured to obtain the reactions for chromium which you describe, but have not succeeded. Read the general remarks respecting the treatment of mixtures containing the oxalic-acid radical.

B. K. N.—The neatness of your report raised expectations which were dispelled by its want of accuracy. Heated by itself or with concentrated sulphuric acid, the powder did not yield the smell of "burnt sugar." The precipitate produced in the aqueous solution by the addition of calcium chloride did not dissolve in acetic acid. The aluminium which you found was probably an impurity contained in the solution of potassium hydroxide used. Silicate and borate were not present. Persevere, however, and try to get confirmation of the presence of every metallic and acid radical which you think you have detected.

PUNJAB INDIGO DECLINES.—Owing to the fall in prices, followed by the closure of several factories, indigo planting is greatly on the wane in the Punjab, the sown area having fallen since 1900 from 115,700 to 71,600 acres. Moreover, the season has not been favourable, as the rains ceased prematurely after sowing time and the canals ran short. The yield of dye is only 808,400 seers compared with 1,235,500 seers, and still worse the yield of seed is only 1,838,400 seers compared with 5,807,400 seers.

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Brevities.

A Burford lad has been remanded on a charge of stealing a tobacco-pouch from the shop of Mr. Edwin Ballard, chemist, High Street, Burford.

A storekeeper and a tinner were remanded at Leeds on January 18 on charges of stealing and receiving two ingots of copper from Messrs. Nicholson & Sons, chemical manufacturers, Hunslet.

A donation of 100 guineas has been made by the Vinolia Company to the fund for the new building and endowment of the Parkes Museum, in connection with the Sanitary Institute, at Margaret Street, W.

The War Office has accepted from Mr. Christy Strong, of Reading, a further donation of 50,000 of his fly-papers for the use of the hospitals in South Africa. The consignment was sent off in December last.

At Huddersfield County Court on January 16, William Ernest Wimpenny, stock and sharebroker, obtained judgment for 9*l.* 9*s.* 2*d.* and costs from Charles Reebuck, wholesale chemist, Shelley, in an action concerning the sale of some shares.

Only five poisonings are recorded since our last report. A doctor's wife at Abercorn swallowed a tabloid of perchloride of mercury with fatal results, a Glossop chemist took prussic acid, and a Birmingham man attached a piece of india-rubber tubing to the gas-jet, put the other end of the tube in his mouth, and turned on the gas. The others were caused by laudanum and spirit of salt respectively.

One evening last week, Mr. Thomas Topham, chemist and druggist, Halifax, who had been troubled with insomnia, went into his shop before going to bed to take a dose of morphine. It is presumed that he took in mistake an overdose, for he was found unconscious in the early morning. Medical aid was summoned, and, although in a critical condition for some days, Mr. Topham has now nearly recovered.

At the prize-competition held on December 10, 1901, at the Westminster College of Chemistry and Pharmacy, the following gentlemen were awarded the medals of the College:—Chemistry, Mr. L. S. Willox; botany, Mr. B. Bickley; materia medica, Mr. A. J. McCabe; pharmacy, Mr. G. T. Walker; dispensing, Mr. H. H. Cannon. Four out of the five have since entered and passed the Minor examination this month.

Mr. Richard Johnson, J.P., President of the National Union of Mineral-water Manufacturers, has written to the Chancellor of the Exchequer asking him to receive a deputation who desire to lay before him certain facts and figures in the hope of staying any further charge upon sugar in the next Budget. The Chancellor of the Exchequer has replied that he will be glad to receive representations from the trade against any proposed additional tax upon sugar.

In the City of London Court on Tuesday, January 21, Mr. G. C. Hounsell, Twickenham, sued Mr. Edward W. Goodenough, 37 Walbrook, E.C., for 6*l.* in respect of four casks which had contained boiler-fluid. Judge Rentoul, after hearing the evidence (which, on defendant's behalf, was that he wanted to return them, but plaintiff had no warehouse; while plaintiff said he agreed to let defendant have them for half-price), gave judgment for the plaintiff for 3*l.*, without costs.

Registered-letter Envelopes.

The Post-office authorities have decided to substitute for the present blue medallion (value 2*d.*) on registered-letter envelopes a brown medallion (value 3*d.*) denoting a registration fee of 2*d.* and postage 1*d.* The prices of the new envelopes of all sizes will consequently be 1*d.* per envelope more than the prices of the old ones. In cases where a registration or insurance fee of more than 2*d.* is paid, or the

postage is more than 1d., adhesive stamps to the value required should be placed on the envelope immediately to the left of the medallion. The new envelopes will be on sale at all post-offices in the course of the next few weeks.

Institute of Chemistry.

Last week the Institute examination in pharmacology, microscopy, and therapeutics, conducted in accordance with the requirements of the Local Government Board, was held by Dr. A. P. Luff. There were sixteen candidates, and the questions were:—

(1) Examine the specimens of coffee marked "A" and report upon its probable purity or otherwise, basing your opinion on the microscopical appearances only. Leave a prepared slide on your bench

(2) Examine, describe, and state respectively the nature of the prepared slides marked B and C.

(3) What articles of food and drink are liable to contain lead? Describe the sources from which the lead is derived and the method by which it is introduced into the respective articles. What are the effects on the human body produced by the daily ingestion of small quantities of lead?

(4) What are the distinctions as regards their action on the human body of corrosive sublimate and irritant poisons? Mention four purely corrosive and four purely irritant poisons.

(5) Give the maximum safe doses for an adult of arsenious oxide, morphine acetate, atropine sulphate, and B.P. hydrocyanic acid.

In reply to Question 1 the most of the candidates said the specimen was pure. Question 2 was found to be a fungus with conidia and linen scraped off a pocket-handkerchief. The drugs shown were the common aperients (aloes, colocynth) and poisonous drugs (strychnine sulphate) and their preparations.

Commemorating a Clever Young Doctor.

The Myers Scholarship (150l per annum) has been founded at Birmingham University by the father of Dr. Myers, who died last year while studying malarial fever in South America. Each candidate must be a B.Sc. of one of the premier universities or of Birmingham.

Retrenchment.

At a meeting of the Nottingham Board of Guardians on January 14, it was reported that the cost of drugs for indoor and outdoor poor during 1901, with the dispensers' salaries (332l.), amounted to 1,809l. That sum was thought excessive, and the Clerk was instructed to direct the dispensers to use the utmost care to prevent waste in their department. Instructions were likewise given for a general order to be issued to the medical staff to state precisely on each prescription the quantities to be given. The committee believed that the absence of such an instruction had caused considerable waste, not only in the medicine given, but in other directions. The dispensers were to be instructed to inform the Clerk of any failure on the part of the medical officers to comply with this regulation.

Nasal Analysis.

At Sheffield, on January 17, an inquest was held on the body of George Bellamy, aged four weeks, son of a time-keeper. The evidence showed that the child was healthy and well-developed. The mother, in consequence of the child being cross, bought a quantity of "infant's preservative" from a chemist in St. Philip's Road, and administered several half-teaspoonful doses in water. The child got worse, however, and was taken to the Royal Hospital, where it died. Dr. A. Graham, house surgeon at the hospital, said when the child was admitted he seemed to be in a state of stupor, and was as much dead as alive. There were no signs of a convulsive fit. Witness thought the child was under the influence of a narcotic. The Coroner: Is that your opinion still? Witness: Well, I am under the impression it must have been some strong sedative. It appears that the mother has given the child a dose of soothing-mixture from some chemist, and that (producing the bottle) smells strongly of opium. The Coroner said the mixture smelt much too strongly to give a one-month old child, especially when the bottle was labelled "Free from laudanum." Some years ago a concoction was brought out and called "quietening-mixture"; that was the best name it ever had. (Laughter.) (To the doctor): I think the

opinion you give without making a *post-mortem* examination is that the child had a strong sedative of some kind, and in all probability similar to the remaining contents of the bottle produced? Witness: It may be so; the child had all the symptoms of narcotic-poisoning. The Coroner said a *post-mortem* examination must be made. It was tantamount to manslaughter if the mixture contained opium and was labelled "free from laudanum." The inquiry was adjourned till January 20, when death was found to be due to pneumonia. No trace of opium was found on analysing the preservative.

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Personal.

Mr. R. Lyons, chemist and druggist, Omagh, has been elected a member of the Omagh Urban Council.

Mr. W. R. Wilson, pharmaceutical chemist, Enniskillen, has been elected a member of the local municipal board.

Sir Henry Cochrane, managing director of Thacker & Hoffs (Limited), chemists and druggists, Dublin, has been elected a member of the Bray Urban Council.

Mr. G. H. Grindley, M.P.S.I., one of the senior members of the Council of the Pharmaceutical Society of Ireland, was taken suddenly ill while at business on January 9, and has been confined to bed ever since. His condition is considered very serious by his physicians, the latest reports being far from favourable.

Poisoning case.

An inquest was held at Tralee, co. Kerry, on January 17, as a result of which it was decided that Mrs. Ellen Murphy died from drinking spirit of salt "which she had taken in a moment of excitement without being aware of its poisonous nature."

Compulsory Chemistry.

The regulation framed by the Pharmaceutical Council making a course of elementary chemistry compulsory on candidates for the Licence-examination is at present before the Privy Council, and is almost certain to be passed, as the Government Inspector's (Sir Geo. Duffy, M.D.) annual reports advocate the necessity for such. If sanctioned the regulation will not come into force before January 1, 1903.

Council Candidates.

Mr. H. V. Johnston, M.P.S.I., Ranelagh, was co-opted a member of the Pharmaceutical Council at the last meeting to fill the place of the late Mr. W. D. Porter, and will, according to the rotation-list retire and offer himself for re-election next October, when, it is currently reported, quite a number of aspirants will enter "the field," so that competition will be brisk.

Potato-spraying.

Some time ago it was stated that potatoes which had been sprayed with copper sulphate had caused poisoning in persons who had eaten them. Three samples of the potatoes were sent to the Agricultural Department, Dublin, for analysis, and the analysts have come to the conclusion that there was no trace of copper salts in the potatoes.

Guardians' Drugs.

At the last meeting of the Ennistymon (co. Clare) Board of Guardians a letter was read from the L.G.B. requesting the Guardians to obtain a report from the medicine-contractor as to liniment of camphor which had been supplied to the Miltown-Malbay Dispensary of the Union, and which the analyst had reported on as not being up to standard. The Clerk was directed to write to the contractor for his explanation.

Record Rejections.

The recent examination for the licence to act as pharmaceutical chemist created almost a record in the number of rejections, many of which were due to failure in "practical pharmacy." Of those that passed Mr. Large scored marks

within a few of the total which would place him in the running for the gold medal annually offered to the holder of the highest marks, but he up to the present holds first claim to the silver medal. Mr. Cuttiford, who obtained second place, was barely 21 years of age on the day of the examination, and consequently it was his first attempt, and a most meritorious one.

Medical Inconsistency.

The recent fatality which occurred in a Dublin hospital is likely to bring pressure on the various boards of these institutions, and compel them, for their own safety and reputation, to appoint duly qualified dispensers. It is almost incredible that members of the medical profession, who so jealously guard their own rights, should countenance the appointment of any but qualified dispensers; still, several of the largest hospitals in Dublin are defaulters in this respect. Were the attention of the Government, or of the Dublin Corporation, called to the matter it would, doubtless, soon be rectified.

Medicine-contract.

At the last meeting of the Enniscorthy (co. Wexford) Lunatic Asylum Committee the tenders for the supply of medicine to the asylum were received. They were as follows:—Messrs. John Clarke & Co., Dublin, at 26 per cent. under the prescribed list of the Local Government Board; the Apothecaries' Hall of Ireland, at 17½ per cent. less; Messrs. Hunt & Co., Dublin, at 9 per cent. less; Messrs. Fletcher & Hoff, at 15 per cent. less; Mr. William Cooke, Gorey, at 10 per cent. less; Messrs. Leslie & Co., Dublin, at 25 per cent. less; Mr. J. H. A. Hadden, Enniscorthy, at 10 per cent. less. The Board accepted the tender of Messrs. John Clarke & Co.

Dispensary Medicines.

At the last meeting of the Granard (co. Longford) Board of Guardians the question of the disposing of the dispensary medicines (which had previously been on the *tapis*) was again referred to. The Chairman said: Now, as Mr. Mackin is here, I think it would be well if he would answer the communication from the Local Government Board with reference to his statement as to the selling of dispensary medicine. That was a very serious charge Mr. Mackin: I will have an answer to the communication for this day week. The Chairman: It would be well to have it cleared up, at all events.

Scotch News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Business Changes.

Mr. J. W. Miller, Byres Road, Glasgow, has purchased the shop in Jamaica Street known as "Dow's Drug-store," and intends to develop the business on new lines.

Messrs. Wm. Paterson & Sons, Aberdeen, whose premises were destroyed by fire the other day, have secured a large warehouse on the opposite side of the street.

Mr. James McNiven, chemist, Graham's Road, Falkirk, and Mr. Andrew Forrester, chemist, Camelon, have joined their businesses, forming a co-partnership, and will trade in future as McNiven & Forrester.

Mr. R. Tocher, pharmaceutical chemist, Maybole, has taken over the old-established and well-known business in Victoria Road, Crosshill, Glasgow, so long and so successfully conducted by the late Mr. J. Dickie.

The Carnegie Trust.

The evening meeting of the Pharmaceutical Society of Great Britain in Edinburgh, which was to have been held in January, is postponed. The meeting was intended for the consideration of a proposal to provide a suitable course of study for pharmaceutical students in connection with the four Scottish Universities, and it has now been arranged to hold the meeting on Friday, February 21, when Mr. J. F. Tocher, F.I.C., Peterhead, will explain the scheme, and a discussion will follow.

Imitation Tobacco.

In the Court of Session, Edinburgh, on Wednesday January 15, Lord S'ormonth Darling had before him the Crown case against David Wilson, merchant, and Robert Simpson Baxter, both of Dundee, for having in their possession 5 lbs. weight or thereby of ground or powdered wood or other matter to imitate or resemble tobacco or snuff, contrary to the statute. A second charge in similar terms referred to 17 lbs. or thereby in other premises in Dundee. Mr. A. S. D. Thomson appeared for the respondents, and tendered a plea of not guilty. The case was adjourned.

Glasgow Notes.

There are fifty applicants for the post of Medical Superintendent of the Glasgow Royal Infirmary, rendered vacant by the retirement of Dr. M. Thomas. The salary is 500*l*.

Hitherto Parish Councils have contracted with the parish doctors, or with chemists, to supply and dispense medicines for outdoor patients. The Govan Parish Council has made a new departure, by setting up its own district dispensaries with a qualified dispenser in each. Three dispensaries have just been opened—in Govan, Kinning Park, and Partick. This charge is due largely to the initiative of Mr. David Watson, chemist, recently elected a member of the Govan Board.

The Pharmaceutical Association's "At Home" did not give the opportunity for chatting that a *conversazione* does, but here and there groups occasionally formed to discuss the interminable problems of pharmaceutical politics, or to recall old times. One missed nearly all the "old, familiar faces" of the palmy days of the Price-list. Mr. R. Prodie, in ever-green youth, and Mr. J. Rabb, upon whose genial face the crowsfeet leave but little trace, were the only representatives present of the generation of Alexander Currie, Daniel Frazer, Alexander Kinninmont, and the rest, who waged Homeric warfare in the good old days.

A South Side medico, of a disputatious turn, has been in correspondence with the celebrated "P. Morison, jun.," with reference to that gentleman's claim that the Pharmaceutical Society impartially administers the Pharmacy Act as between doctor and chemist. The Glasgow controversialist demurs to this statement, on the ground that whereas the Pharmaceutical Council complains to the Medical Council, of medical men who continue to employ unqualified dispensers after these have been convicted of breaches of the Pharmacy Act. It does not report similar cases in which chemists are concerned to the Privy Council, in terms of section 26 of the Pharmacy Act, 1868. Mr. Morison's answer is, that the Pharmaceutical Council does not take this course because it has no disciplinary power over registered chemists, but that it is open to the doctor or any other person to approach the Privy Council on the matter. The correspondence is to be published shortly.

Ayr Chemist's Separation Sequel.

The Judges of the Second Division of the Court of Session, Edinburgh, disposed, on January 16, of an appeal from the Glasgow Sheriff Court taken by William Cluny Beattie, Dumbiedykes Road, Edinburgh, to a decision by Sheriff Guthrie. The action was raised by W. J. & R. Buchanan, auctioneers, Glasgow, who had sold a quantity of furniture belonging to Frank Beattie Weatherston, lately a chemist in Ayr, under instructions from Beattie. Mrs. Weatherstone laid an arrestment on the proceeds of the sale of the furniture, which, after deducting expenses, amounted to 14*l*. 15*s*. 5*d*. under a decree of separation and aliment which she obtained against her husband in 1900, her claim on her husband's estate amounting to 139*l*. of aliment and 325*l*. of expenses on the action. Beattie claimed the sum referred to (which was lodged with the Clerk of Court) in respect of an advance which he made to Mr. Weatherstone (his nephew) of 300*l*. on security for which Weatherstone handed over the furniture to him. Mrs. Weatherston stated that the arrangement between her husband and his uncle was a simulate effected collusively between them to defeat her claim. Sheriff Guthrie, after hearing proof, found Mrs. Weatherston entitled to the whole fund, and found Beattie liable in expenses, and the Second Division Judges adhered to that decision and found Beattie liable in additional expenses.

French News.

(From our Paris Correspondent.)

THE ANTI-TUBERCULOSIS MOVEMENT.—The Committee of the Paris Anti-tuberculosis Dispensaries, of which Professor Brouardel is the President, has arranged a grand charity performance to be held at the Sarah Bernhardt Theatre on Wednesday afternoon, January 29, for the purpose of raising funds. Mme. Bernhardt has given the gratuitous use of her theatre, and will in addition take part in the performance. The anti-tuberculosis movement has also been a prominent feature in other parts of France during the past week.

M. BERTHELOT ON OUTDOOR EXERCISES.—M. Berthelot, the famous chemist, who celebrated his fiftieth scientific jubilee last November, has given an interviewer some interesting facts regarding his impressions in matters of motor-car riding, cycling, and outdoor sports in general, including ballooning. He refers to cycling as "improved walking," and credited the initial motor-car trials to Papin, of whom he speaks in his book "Science and Morals." The second apostle of the modern locomotion, says M. Berthelot, was Cugnot, to whom reference was made in the Paris press a few days ago as giving the opportunity for Napoleon I. to be recorded in history as the original imperial patron of the motor car. Upon being asked whether, on the subject of ballooning he was a partisan of the "heavier than air," or the "lighter than air" theorists, M. Berthelot replied, "The essential thing is to maintain oneself the longest time in the air without falling. Any means of accomplishing this must be considered excellent."

THE SECRET OF THE BOER RESISTANCE.—The following communication, which bears the Dijon postmark, may interest London war critics:—"I travelled down here with an amiable and voluble Frenchman, and our conversation turned—as it is wont to turn nowadays—on the prolongation of the Boer War. 'But will you know the true reason why Lord Kitchener succeeds not?' he concluded when we alighted. 'I will show you.' And he led me to a neighbouring hoarding where the posters were varied and numerous. He indicated one with his umbrella. It represented a fatigued soldier of cadaverous aspect—whose scarlet coat (the French artist still fondly imagines our troops combat in this uniform) denoted him as an Englishman—wearily seating himself by the roadside. A jovial and hearty Boer of rustic aspect and aldermanic rotundity presented him with a glass of some beverage from a bottle he held in his hand. Above was inscribed 'Kola Fontbonne,' and below an announcement of the many hygienic and force-giving properties of this aperitif fabricated by a Dijon firm, I noticed. I am very much afraid my travelling companion was interested in its sale by the anxiety he subsequently evinced to have my personal opinion on its palatable and stimulating nature. But the originality of the poster and its evident appeal to French sympathy much amused me, for the inference is that the Boer resistance is due to the energy derived from their having a good supply of the medicated wine in question."

NEW MUSEUMS.—Amongst the proposals for reorganising the various services of the Paris hospitals is one for transferring to Ivry the central pharmacy of the hospitals, which for many years has occupied the seigneurial mansion known as the Hôtel des Miramiones, on the quai des Tournelles, Paris. The Public-relief Department having decided to sell this historic house, the Committee of Old Paris has passed a resolution to the effect that an attempt shall be made to secure it as a museum of charities. From 1691 to 1790 the mansion was used as a convent, which was suppressed in the latter year. The gardens still contain trees that date from the time of Louis XIV. The difficulty in connection with organising the proposed museum is the cost, which would be about 900,000f. (36,000%). A similar scheme is on foot at Lyons to form an historical medico-pharmaceutical museum at the Mixed Faculty of Medicine and Pharmacy, which is situated on the quai Claude-Bernard, between the rue de la Viriolerie and the rue Chevreul. The principal promoters are M. Lacassagne, the Professor of Forensic Medicine, and M. Florence, the Professor of Materia Medica and Botany.

The former represents the medical element, and the latter the pharmaceutical, as he is pharmacist at the Hôpital des Vieillards at Lyons. These two gentlemen request anyone having portraits, old surgical instruments, pharmacy pots and mortars connected with the Lyonnais region of France to help them in forming a collection worthy of the second city of the Republic.



A DROP OF MILK.

This is a reduction of another of Guillaume's clever sketches in *Le Matin*. It is accompanied by five verses parodying Sully-Prudhomme, of which the following is a free translation:—

The vase of snow-white porcelain,
From which the doubtful milk we pour,
Had erstwhile near a fountain lain,
Where drivers, milkmen kicked it o'er.

But who may heed its contused edge,
Its fair sides cracked and splintered round,
When Science gives a certain pledge
That She its contents sure can sound?

So 'neath the microscope dropped out
A sample from the vase is tried;
No longer there remains a doubt.
Drink not the milk! 'Tis liquified!

'Tis often so; the milk we love
Our stomach glazes and destroys.
We drink again; nor glance above
At those who've perished by its joys.

Pure to the world though it may seem
This milk, it ofttimes is, alas!
Well mixed with Seine-polluted stream,
'Tis watered! Shun the tempting glass.

South African News.

THE MEETINGS of the Pharmaceutical Society of Cape Colony have been discontinued until February.

WANTED A TONIC.—At Cape Town a native was found guilty of stealing a case of Fellows' syrup from a trawler near the Docks, and was sentenced to thirty days' hard labour.

RETURNED MEDICOS.—Dr. Bloomfield, a well-known Rand practitioner, has arrived in Cape Town, *en route* for Johannesburg, after a prolonged stay in England.—Dr. Paul Pettavel has also returned from a six-months' holiday in Europe, and will immediately get into harness again.

NEW DOCTORS.—Licences have been issued authorising the undermentioned persons to practise as medical practi-

tioners in Cape Colony:—Alfred Bentley Sigismund Powell, L.R.C.P., L.R.C.S.E.I. (late of Inverness), Walwyn Thomas, M.B., B.S. (late of St. George's Hospital, S.W.), Patrick Johson Henderson, M.B., M.S. (late of Blairgowrie), Frank Mayo Morris, M.R.C.S., L.R.C.P. (late of St. Mark's Hospital, E.C.), Hermann Peyer (late of Switzerland).

PLAGUE.—At the Plague Board meeting on December 17, 1901, the chief medical officer reported that no cases of plague had occurred in Port Elizabeth during the week previous. This was the first week since May last in which a clean sheet has been furnished.—The Government plague expert at King Williamstown has inoculated 11,000 natives, the personality of Dr. Montgomery, the medical officer in charge at King Williamstown being doubtless responsible for the faith of the natives.

ALLEGED PHARMACY ACT INFRINGEMENT.—At the Cape Town Police Court, before Mr. G. Blackstone Williams, R.M., Emma Kate Sherlock was brought up on remand on charges of having practised as a medical practitioner without a licence, and also with having sold poison. Mr. Williams again took the evidence which had been heard at the previous hearing (see *C. & D.*, November 9, 1901, page 755, and November 23, 1901, page 832), and which was to the effect that the accused sold boxes of pills, which were shown to contain opium and other ingredients. The defendant, in her evidence, said she did not know the contents of the pills, and made nothing out of them, but admitted that she did not hold a licence. Judgment was reserved.

UNIFORM PRICES.—In response to a circular letter sent to all the chemists in the Peninsula, and signed by Mr. D. K. Petersen (of P. J. Petersen & Co.), Mr. A. J. Rivett (managing director of Lennon, Limited, Cape Town), and Mr. F. O. Mathew (of Heynes, Mathew & Co.), and Mr. Geo. Darvell (of Cleghorn's pharmacy), a meeting was held on December 18, 1901, in the Pharmacy Board Rooms, Cape Town, to discuss the question of uniform retail prices. The meeting was fairly representative, including, in addition to the conveners, Messrs. Cameron and Hamilton, Mr. E. L. Lalling, Mr. W. Fick, Mr. Hopkins, Mr. J. Hall (Claremont), Mr. H. L. Stonham, Mr. Prophet, representing Mr. F. W. C. Thomas (Claremont), and several others. Mr. C. J. Rivett was voted to the chair, and gave a brief outline of the proposed measures. Finally a ballot was taken to appoint a committee of nine, to be again divided into sub-committees of three, to consider respectively the drug, patent, and sundries sections of the scheme. After investigation the various decisions will be submitted to another general meeting, to be held shortly. The question of society and club dispensing was broached at the meeting, but was ruled out of order. This subject, however, as well as the modification of the Sunday hours of chemists in Cape Town, will come up for discussion at the next meeting.

Natal Trade in 1901.

(From our Durban Correspondent.)

Wholesale.—During the past six months wholesale business has been brisk. "Sparklets" have been very much in evidence in recent shipments, the hot weather being close at hand. The decision of the military authorities to strictly guard and to utilise the main line of railway from Durban to Johannesburg for conveying supplies for the troops and civilian population of the Rand has resulted in an enormous increase of all kinds of chemists' goods being sent *via* Durban. So much is this the case that with the exception of a little *via* East London, the Cape ports are not in the running with Natal. The grievances of business men in general, and the chemist in particular, in connection with the importation of home goods are too numerous to be more than indicated. There is the usual weekly apology from home re divided shipments, such as 125 cases on bill of lading, with only 25 shipped, whilst the frequent interviews with shipping and forwarding agents antecedent the transshipment of goods *en route* fully justify the claims of Natal merchants for a direct service of steamers by the Union Castle Company.

Messrs. Lennon (Limited) are erecting new wholesale and retail premises on their old site in West Street. As the building will not be completed for some time I shall have an opportunity of referring to it later.

The wholesale supply of methylated spirit is still a source of considerable irritation to the trade. The duty of 15s. per gal. imposed by the Government on the imported article from any

place outside the Customs Convention, absolutely precludes any competition with the local product. Unfortunately the local manufacturers are unable to cope with the demand, with the result that every now and again the supply of S.V.M. runs out.

Retail.—For some time there has been a slight falling-off in the returns of the retail trade, due perhaps especially to the gradual return of many of the Rand refugees, the better class of whom have been staying at the hotels for the past two years, and of course have contributed in no small measure to the increased business; also to the less frequent visits of officers from the front, most of whom are too far away from the principal towns to admit of spending an occasional day in town for shopping purposes. Moreover, they are constantly on the move since guerilla warfare set in.

The future outlook is bright and reassuring, for with the opening up of the Rand in the New Year a great increase of visitors from home is anticipated, and, judging from the number of berths booked by the various passenger-steamers, together with the thousands of tourists on the roll at "Cok's," expectations likely to be realised.

Those chemists who combine photography with pharmacy have had a very busy year, both in selling photo goods and in developing films, printing, &c. Thousands of films have been sent down from the front, so it may be imagined what an impetus the photo business received. With the rapid growth of the outlying districts of the borough of Durban there have naturally been several opportunities for the enterprising assistant to go into business or for an ambitious proprietor to establish a branch. These opportunities local chemists have not been slow to take advantage of, with the result that several new drug-stores have been opened during the past year.

From a patriotic standpoint, it is to be greatly regretted that the retail sale of perfumery is mostly of French manufacture. Roger & Gallot, Pinaud, Piver, Rigaud, and Legerand are in great demand, whilst the Germans score with Mühlens. Such English firms as Atkinson, and the Crown Perfumery Company's products are occasionally asked for, but very seldom in comparison with those of the French firms named. With the perfume-loving public an exquisite odour is not all that is necessary. It must be enclosed in an attractive bottle with a handsome label and a faultless *tout ensemble*, so as to provoke love at first sight. This combination the French aim at, while the English—well, don't.

American Notes.

BUSINESS - CHANGE.—The Arkwright Pharmaceutical Company have taken over the business at 3813 Laclede Avenue, St. Louis, Mo., formerly belonging to Messrs. Griffiths & Co. The businesses will in future be carried on under the name of the Arkwright Pharmaceutical Company, with headquarters at 212, South Seventh Street, St. Louis.

SAME ALL THE WORLD OVER.—One of the most travelled "travellers" is, perhaps, Mr. P. J. Smythe, who represents an Eastern drug-house dealing in petroleum products. He is an Irishman, and his professional wanderings take him to every part of the five great continents, excepting only South America. In his most recent trip he has been through India, from Calcutta to Bombay, through Afghanistan, and the Holy Land. He has covered Japan and almost half of the great area of China. From the Orient he went to Africa, and after a tour of the northern part of that continent he returned to America. In speaking of the various peoples he has met Mr. Smythe said the more he travelled the more he realised that druggists at least are the same the world over. In India or in America the men with whom he has to deal have about the same methods and instincts. Mr. Smythe speaks several languages besides English, but says that English will carry the ordinary man around the world. "Whether one is in Paris or Berlin or Rome or in the heart of the Sahara," said Mr. Smythe, "he will find that the knowledge of English is the 'open sesame'—the only requisite for the interchange of thought."

ITALIAN QUICKSILVER.—According to the *Bollettino della Finanza* there is a considerable output of quicksilver in Italy, especially in Tuscany, where the quality of the ore is said to be as good as that of the Spanish mines of Almaden. The chief deposits are those of San Salvatore and of Comacchio, and Siele in the province of Grosseto. About 95 per cent. of the Tuscan quicksilver is sent to the United Kingdom.

Winter Session.

Royal Institution.

A LARGE audience was present at the Royal Institution on January 17, to hear the first Friday evening discourse of the session, by Lord Rayleigh, on the

INTERFERENCE OF SOUND.

The Duke of Northumberland was in the chair, and we noticed amongst the scientists present Sir Frederick Abel, Sir William Crookes, Sir Henry Trueman Wood, Sir W. C. Roberts-Austen, Sir Andrew Noble, Dr. Ludwig Mond, Dr. J. H. Gladstone, Professor Dewar, Professor S. P. Thompson, Dr. Messel, and Mr. Wimshurst.

Lord RAYLEIGH began by giving Tyndall's experiment with a shrill sound (in this case produced by a bird-call) and a sensitive flame, and showed how, by measuring the space between the nodes and loops, the length of a sound-wave can be measured. These two points are at a distance apart equal to half the length of the sound-wave. It should be explained that behind the flame a reflector is placed, which sends the waves back as stationary waves, in which loops and nodes alternate. Reflectors of glass, muslin, and paper have the same effect. To produce more complete interference, a glass screen with a circular hole in the centre, was placed between the flame and bird-call, the flame being made to flare by placing a disc of cardboard before the centre hole. Lord Rayleigh showed how the flame-method forms an easy method of determining the pitch of tuning-forks. This led up to an account of some experiments he had been making in fog-signalling at St. Catherine's Point, Isle of Wight, as scientific adviser to Trinity House, and which resulted in the discovery that fog-horns with elliptical cones are superior to the round ones hitherto employed. It was noted that the best results as regards spreading the sound along the horizon are obtained by placing the cone with its long way vertical, and not, as would be thought, with the long way horizontal. This was shown by means of model foghorns attached to the bird-call, when it was seen the best effects were obtained by placing the cone exactly vertical, the sounds co-operating instead of neutralising each other, as they do when the horizontal position is assumed. The curious phenomenon of a "silent area," in which the sound may be silent at, say, a mile from the foghorn, yet be heard again at a further distance was referred to. This circumstance is obviously a very serious one for ships that get in the "silent area," and Tyndall's explanation was that it was a phenomenon of interference, the sea acting as a reflector of the sound-waves, which thus neutralised each other. Lord Rayleigh could offer no better explanation, but was not quite sure that Tyndall was right, as assuming that there was a "silent area" at the level of the deck, the sounds should be recovered either at the sea-level or up the mast. In experiments on board the *Irene*, however, the sounds could not be recovered. A concluding experiment was one showing that sound is affected by the medium through which it travels. Two hoops of metal, with collodion ends, were filled with carbonic-acid gas, with a retarding effect on the sound as compared with air. The collodion discs which covered the ends of the metal hoops were made by pouring a solution of celluloid in amyl acetate on water, allowing the solvent to evaporate and lifting the skin which remains on to the end of the hoop.

AN INTERESTING CEREMONY

took place at the conclusion of the discourse, when a bust of Sir Frederick Bramwell was unveiled. The Duke of NORTHUMBERLAND, advancing to the lecture-table, explained that when Sir Frederick Bramwell retired from the secretaryship last year his friends conceived the idea of presenting him (Sir Frederick's) bust to the Institution to commemorate his holding the secretaryship for fifteen years. The Duke explained that as when Parliament is opened by Commission the commission speaks in the King's own words, so he (the speaker) spoke in the words of the Board of Management, and proceeded to read a resolution which was passed in June, 1900, expressing the esteem with which Sir Frederick was held by his colleagues. The Duke,

with the assistance of one of the Institution officials, removed the red-velvet cloth which covered the bust, the audience applauding the while.

Sir JAMES CRICHTON BROWNE, as Treasurer of the Institution, accepted the bust on behalf of the members, speaking of it as "an animated bust with a photosphere of life around it." Sir James was in good form, and related how when Sir Frederick heard that it was resolved to commemorate his secretaryship he asked to be allowed to provide it himself, in the shape of an electric lift from the laboratories in the basement to the professors' department upstairs. But Sir James said "I told him he had already given the Institution a good lift, and it was not a hoist but a bust that was wanted."

Sir FREDERICK BRAMWELL said he found great difficulty in making any adequate reply. At his age—he was well into his 84th year—many things were denied him, among others the faculty of blushing; otherwise he would not have been able to sit and listen to the laudatory remarks of the Duke of Northumberland and Sir James Crichton Browne. The fifteen years he had served as secretary had been years of hard work, but of great enjoyment, for he had been brought into intimate contact with many men whom it was a pleasure and an honour to know. In 1885, before he accepted the secretaryship, as he did not feel fit for the duty, he consulted an old friend, who said to him, "You know a certain institution, and that so-and-so was secretary. Well, he was the biggest fool they ever had in the position and the institution was never so flourishing." "That certainly did encourage me," said Sir Frederick amidst roars of laughter. He was glad the bust had been given, for he believed the work of the world was done by average mediocrity pegging on, and it was well to encourage men in that sort of thing. As regards the form the commemoration had taken, it had the advantage that it could be easily removed, when some fifty years hence some one would ask "Who is that old fellow?" Perhaps the Professor Dewar of the day, after having liquefied the ether and preparing to solidify it, would want more space, and would say "we must get rid of some of these busts." (Loud laughter.) Sir Frederick concluded by making a touching reference to the recent death of the sculptor of the bust, Mr. Onslow Ford, saying it was a matter on which he could scarcely trust himself to speak. He had anticipated the process of making this bust with horror, but it became an actual enjoyment to sit to the genius and genial man who had made it and watch the clay growing into a most impossibly exact likeness of himself, and the death of Mr. Onslow Ford was to him a source of infinite sorrow. He (the speaker) thanked the numerous friends most heartily for the evidence the bust afforded of the interest taken in him. (Loud applause.)

Chemical Society.

A MEETING was held at Burlington House, Piccadilly, W., on January 16, at 8 o'clock, with the President (Professor Emerson Reynolds) in the chair. After the reading of the minutes, the senior SECRETARY announced that the Council had made

ANOTHER CHANGE IN THE DATES OF MEETINGS

for the remainder of the session, and in consequence the next meeting would be held on Thursday, January 30, at 8 o'clock. After that date the first of the long-deferred and much-debated afternoon meetings will be held—unless the Council again changes its mind—on Wednesday, February 12, at 5.30 P.M.

The first

TWO PAPERS

down for reading dealt with the colouring-matter of green ebony and the constitution of the yellow dye myricetin, obtained from the Indian dyewood *Myrica Nagi*, and were contributed by Mr. A. G. Perkin. Owing to the absence of the author they were taken as read. The third paper was by Professor RUTHERFORD and Mr. SODDY, of Canada, and gave an account of their experiments on the

"RADIATION" AND "EMANATION" PHENOMENA

exhibited by thoria. As much interest is at present being shown in these mysterious subjects the paper was read in

abstract by Dr. SCOTT, and subsequently Professor VERNON HARCOURT gave a concise *résumé* of the author's previous work on this subject which made the matter clear to the Fellows present. During recent years the existence of a class of substances capable of sending out a straight-line radiation similar in character to ordinary light has been recognised through the researches of Curie, Crookes, and others, and this phenomenon has been named, after the physicist who first observed it, Becquerel radiation. Such a substance is the element radium, which occurs associated with barium, whilst uranium is supposed to owe its radioactivity to the presence of minute traces of actinium, and likewise polonium is associated with bismuth. Thoria contains such a radio-active substance which can be concentrated to a certain extent by fractional precipitation of crude thoria, but has so far successfully avoided all attempts at isolation. In addition to its Becquerel radiations, thorin exhibits another remarkable property, since it confers electrical conductivity upon gases when the latter are passed over it in a heated state. This is what the authors call the "emanation" of thoria, and since the mineral loses this power after long heating and regains it by solution and reprecipitation, they believe that some inert gas of the argon type is taken up by thoria and given up by it on heating, thus producing the conducting "emanation."

Dr. CHATTAWAY next read for himself and Mr. Walmore a paper on the constitution of

HYDROCYANIC, CYANIC, AND CYANURIC ACIDS.

In this the view was advocated that the hydrogen atom is attached to the nitrogen—*i.e.*, that prussic acid should be written H.N:C instead of H.C:N. The new evidence brought forward was obtained by a study of the action of reagents upon the haloid derivatives of these cyanogen compounds, which invariably react like substances containing the haloid joined to nitrogen. The paper gave rise to an animated discussion on the possibility of drawing conclusions from the reactions of tautomeric bodies such as those under discussion, most of the speakers being apparently in favour of the old-fashioned formulae. A paper on a

IMPROVED FORM OF ZEISEL'S APPARATUS

for the estimation of methoxyl was then communicated by Dr. HEWITT and Mr. MOORE. The improvement consists in the use of a fractionating column of special construction to keep back the hydriodic acid instead of the sloping condenser, filled with warm water kept at 40° C., and the washing-apparatus containing amorphous phosphorus. As the new apparatus is simple in construction, can be rapidly put together, and gives apparently excellent results, it will be welcomed in laboratories where alkaloids, essential oils, and other natural products are investigated.

A NEW COLOUR REACTION OF HYDROXYLAMINE

was then shown, and discussed by Mr. BALL, who had observed that when aqueous solutions of ammonium sulphite, hydroxylamine hydrochloride, and ammonia (880) were mixed a fine purple colour was developed. The substance has often been observed by investigators working with compounds of nitrogen and sulphur, but has never been thoroughly examined, and the author was advised by Professor DUNSTAN in the course of the discussion not to follow the evil example of his predecessors, but to clear the matter up finally.

The last paper was by Mr. Menzies, and discussed the range of accuracy possible in a temperature-regulating apparatus of the Ostwald type.

Chemists' Assistants' Association.

At a meeting of the above Association, held at 73 Newman Street, W., on January 16, the President (Mr. J. W. Peck) being in the chair, there was read an interesting paper by Mr. S. T. FROST on

BEE-KEEPING.

My purpose, said the author, is not to give a treatise on the products of the bee, but to direct attention to bee-keeping as an interesting hobby for chemists. Some may ask, Of what interest is bee-keeping to chemists' assistants in London? A country residence is not a *sine qua non* to

success in this hobby. The rapidity and power of flight of the bee, and its strongly-developed homing instinct, render a distance of a few miles of little account; consequently bees may be, and are being, kept in London, with its extensive parks and commons and numerous lime-trees. Close proximity to pasture-land or to large tracts of heather is an advantage, but it is not indispensable.

Modern bee-keeping differs considerably from the old style in the bell shaped straw skeps. The "scientific" bee-keeper uses "bar-framed" hives, the essential difference between the two systems being that whereas bees kept in straw skeps swarm several times during the honey season, by the new system swarming is prevented with a consequently larger yield of honey.

After minutely describing the "bar-framed" hive, and the "comb foundation," Mr. Frost remarked that when a colony of bees is placed on a bar-frame hive, fitted with "foundation" combs, the "worker" bees immediately begin to "pull out" the foundation into a honey-comb formation, and if the honey-season is in full swing commence to deposit honey in the cell, while the queen-bee begins to lay the eggs which subsequently materialise into "workers," undeveloped females, drones, male-bees, and queens. The time required for the development of a worker-bee is twenty-one days, drones twenty-four days, queens sixteen days. The more rapid development of the larvæ destined to be queens is due to a special food which is given exclusively to them and which is said to be more rich in proteid matter. Only one queen is allowed in a hive, but she is extremely prolific, so that in the course of a few weeks the body-box of the brood-chamber becomes overcrowded, and if honey is being brought in briskly, the bees, having a few queen-cells with queens nearly hatched, decide to divide or "swarm." All being in readiness the old queen leaves the hive, followed by about three-fourths of the bees. A few weeks later a second "swarm" may be thrown off, and sometimes even a third "swarm" will leave the hive.

Mr. Frost next explained how the modern honey-gatherer circumvents the swarming instinct of the bee by giving them more room. An additional box is placed over the brood-chamber, and between the upper and lower box is placed a piece of zinc perforated in such a manner that while the worker bees can pass through, the queen and drones, being larger, cannot. Breeding is confined, therefore, to the lower chamber, and as the entrance is through the lower box the workers only enter the upper chamber to deposit the honey. As these additions to the hive can be made as required, a colony can be kept working at full pressure during the season.

Dealing with the quantity of honey which a colony gathers in a season, the essayist said he had assisted in taking from one hive 126 lbs. of honeycomb. Swarming, and how to prevent it, was next touched upon. The bee-keeper, having captured the swarm, puts the bees back where they came from. While they are settling in a temporary hive he stretches a sheet horizontally across the front of the hive, allowing it to bag somewhat, but not sufficient to touch the ground. Just before dusk, when the bees have settled comfortably for the night, he takes the hive and, by a sharp jerk, throws the whole of the bees upon the sheet. For a few moments all is confusion, the bees running about in all directions, very few, however, attempting to fly. By means of the "smoker"—the bee-keeper's chief weapon of offence and defence—the bees are soon all turned towards the mouth of the hive, and it is then a most interesting sight to watch the great mass of bees marching inside. To prevent a recurrence of the swarm the beekeeper sometimes opens the hive before putting the bees back and cuts out all the queen cells. If it is desired to have a young queen, he and his assistants take up a position on either side of the sheet, close to the entrance, and keep a keen look-out for the queen, and on sighting her she is at once destroyed. Should she elude the watchers a fight will probably occur between the old and young queens, and when the question of supremacy is decided the bees soon resume the even tenor of their way.

The collection of the honey was the next aspect of bee-keeping considered. The method recommended by Mr. Frost is as follows: In the early morning of a suitable day the different sections of the hive are slightly opened, and a little smoke puffed into the hive. This alarms the bees,

and causes them to gorge themselves with honey, when they may be manipulated without risk of stings. The upper part of the hive is then raised clear of the body-box, and a bee "escape" inserted between the upper and lower portion. This stops the bees in the latter part from coming upwards, but those in the upper part can go downwards. As a result, the "supers," or upper boxes, are soon clear of bees, and the combs may be removed to extract the honey. Before doing so it is necessary to "uncap" the honey-cells—perhaps the most tedious and delicate task the bee-keeper has to perform. Modern methods, however, have made the task comparatively easy, and if a knife constructed for this purpose be employed, taking care to immerse it frequently in boiling water, the combs are soon ready for the "extractor"—a centrifugal machine which rapidly empties the combs of honey. After passing through the "extractor," the combs are replaced in their former position in the "supers," and can be utilised for the next season, for, if the bees have a comb ready prepared, the task of storing the honey is commenced immediately. It will be readily understood that by this system little beeswax is produced; but modern bee-keeping has this advantage—that much more honey is obtained, and it is not necessary to destroy a single bee. The whole of the young brood is kept alive, and forms the strength of the colony the following spring. The lower box, or brood-chamber, is generally left alone, so that the honey it contains may serve as winter food for the bees. Sometimes this is not sufficient, and a bee-food, consisting of a thick syrup of sugar and water with a dash of vinegar, is prepared. This is placed in a special "feeder," whence the bees can carry it down to the hive at leisure.

Mr. Frost gave some instances of the extreme adaptability of *Apis mellifica*. During a bad honey season the bees from one apiary raided a local confectionery-works where glucose was extensively used, and the work-people were compelled to cease work in the daytime. Large quantities of syrups intended for the manufacture of sweets were carried away by the bees, with the result that when the honey-cells were exposed some appeared to contain pink honey and others a red-coloured fluid. The proprietor of the works has since threatened the owner of the bees with an action for damages on account of the loss and annoyance caused.

When honey is scarce the otherwise industrious and moral bee gives way to some predatory instinct, and each begins to rob his neighbour. Mr. Frost said he rather sympathised with the "drone," who was after all not such a lazy good-for-nothing fellow as generally described. After performing the necessary function of fertilising the queen bee and subsequently tending and keeping warm the young bees in the grub-stage, he is, at the end of the season, driven out of the hive and left to starve.

The life of a worker-bee during the honey season is of short duration, and when honey is plentiful one may sometimes notice great numbers of bees crawling around the hives with their wings literally worn into shreds so that they can no longer fly. These are denied entrance to the hives, the sentinels at the doorway expelling them in the same brutal fashion as the drones.

The paper was supplemented by specimens of various bee-appliances lent by Messrs. James Lee & Son, 10 Silver Street, High Holborn, W.C.

The President, Mr. R. E. Lonsbrough, and Mr. FFOULKES spoke on the subject, and Mr. Frost, replying to the question, said he did not know the effect of passing glucose through the bee; honey is composed of two glucoses. All pure honey crystallises on keeping. If melted down it does not re-crystallise if adulterated. Localities certainly affect the quality of the honey; clover honey is very nice, and heather honey has a distinctive flavour, but is dark and very dense. As to the bee distinguishing certain flowers, he knew that once the bee found where honey is to be obtained it makes a "bee-line" to the spot. The average life of a worker bee is six weeks, but they live longer in winter. Honey ripens better in the combs, but is also "ripened" artificially.

Midland Pharmaceutical Association.

At a meeting of the above-named Association held at the University, Birmingham, on January 16, under the presidency of Mr. A. W. Gerrard, F.C.S. (in the absence, on account of

the death of Mrs. Sarah Southall, of Mr. John Barclay).

Mr. F. H. ALCOCK, F.I.C., read a paper on

CINCHONA BARK: ITS TINCTURE AND ASSAY.

Mr. Alcock reminded his hearers that attention had been called on several occasions recently to the unsatisfactory nature of the preparations of astringent drugs. He showed several samples of simple tincture of cinchona and the compound tincture. The bottles were coated with a thin film of insoluble matter, and there was a thick sediment of the same substance, whilst a general deterioration of the tincture was evident. The flaky substance was not easily detached from the bottle by shaking in water or spirit, but yielded immediately to caustic potash or soda a clear deep red-brown liquid, becoming darker on exposure to air. Mr. Cripps, he mentioned, showed some years ago that alkaloids were deposited in the sediment of tincture of cinchona, and Mr. Alcock, on testing the sediment in 15 c.c. of one of the samples of tincture, obtained a very faint reaction for alkaloids. While dealing with this sediment the thought occurred to him to examine the official assay process with the tincture, which consists presumably of treating 10 c.c. of the tincture in the same way that 5 c.c. of the liquid extract would be treated. This process seemed to be a very elaborate one in order to capture 0.1 gramme or $1\frac{1}{2}$ gr. of alkaloid from 10 c.c. of the tincture, and it was not difficult to understand an inexperienced analyst going wrong when assaying this preparation. With the same process

IT WAS NOT SURPRISING

that even highly experienced analysts could differ almost to a serious degree when this assay was adopted. He found the lime-assay process on the evaporated residue was not satisfactory because of the danger of the formation of lumps, entangling the alkaloid, and causing resistance to the action of the alkaloidal solvent. To prove this a standard tincture was taken, and by the lime process only 0.82 gr. of total alkaloid was obtained from 10 c.c. He mentioned that benzolated amyl alcohol does not remove the whole of the alkaloid from the ammoniacal solution of alkaloids (last stage of assay process), even after six washings, and in two instances at least nine and ten washings did not entirely remove what was considered to be traces of alkaloid. After acidification with hydrochloric acid the presence of alkaloids was still indicated by the usual reagents. Mr. Alcock described how the tincture used in his experiments was prepared. A sample of bark from the London Docks, guaranteed to be of B.P. strength, yielded 6.23 per cent. of total alkaloid, distributed as follows: 1.2 per cent. of quinine and cinchonidine, 3.9 per cent. of cinchonine and amorphous alkaloid. The residue in the filtrate, which the B.P. ignored, was 1.13. He reminded his hearers that Mortimer several years ago called attention to this omission in the official process, and Professor Attfield, in his "Digest of Criticisms" of the 1893 B.P., thought that he had not extracted the whole of his alkaloid because he did not leave it long enough. Describing how his tincture was made, Mr. Alcock said 4 oz. of the bark was macerated with 4 oz. of 70-per-cent. alcohol, transferred to a percolator, and percolated with the same menstruum until 1 pint of the product had been obtained. This was put on one side, and percolation continued with water until all the alkaloids were removed, as indicated by Mayer's alkaloidal reagent. The aqueous and weaker spirituous portion was evaporated to low bulk, and mixed with previously collected percolate. The resulting tincture, when assayed according to the B.P. plan, contained 1.07 gramme of alkaloids per 100 c.c., and yielded 5.35 per cent. of total solids, which in its turn gave 25 per cent. of ash, while the sp. gr. was C.919. The aqueous portion contained but a very small quantity of alkaloid. The following modification of the official process was used in assaying the tincture. Ten c.c. was mixed with separate portions of potassium hydrate, quantities varying from 0.2 to 1 gr. being used, together with 20 c.c. benzolated amyl alcohol, which was removed, and the residue washed with another 10 c.c. of B.A.A., then proceeding as the B.P. directs. By this process all emulsification is avoided, separation is clear and well defined, and the substratum liquid perfectly clear and soluble. Another experiment was tried in which chloroform alone was used, and the result compared favourably with the previous experiment, the

resulting alkaloidal residue being slightly coloured. A third experiment with ether was not satisfactory, the ether removing a considerable quantity of colouring-matter. Standard alcoholic potash may be used with advantage, for then the impurities of commercial caustic potash—such as chloride, sulphate, and carbonate—do not interfere with the subsequent separation. This potash process was applied to the analysis of the marc. Five grammes of the marc and 5 gr. of caustic potash, with 10 c.c. of alcohol, were triturated in a mortar and left for twenty minutes, then transferred to a flask, B.A.A. added, and the extraction proceeded with according to the B.P. directions. This process gave the same result as the official process, and was apparently cleaner and quicker in operation. When adding either lime or caustic potash to the cinchona-bark it was observed that an ammoniacal gas was evolved. He had not seen this recorded before, and he asked if other experimenters had had a similar experience. Dewhurst adversely criticised the B.P. bark-extraction, and Mr. J. Stenhouse had proposed an alternative process, but Mr. Alcock believed that by the use of this alcoholic-potash method the official process would stand good.

Mr. GERRARD said the essence of Mr. Alcock's paper seemed to be a portion of that important branch of pharmacy which was concerned with the known solvents—their uses and how they operated when brought to bear upon drugs. He had had considerable experience of the extraction of alkaloids, and so far as emulsification was concerned, it was a very good thing to shake first of all with absolute ether. It was necessary that it should be absolute, and then emulsification did not take place so readily. There was no objection to the use of methylated ether. It removed fat and waxy matters, and chlorophyll, which was of a waxy nature also. He had not had a close acquaintance with cinchona bark or its tincture, but should imagine it was not easy for solvents to penetrate the hard bark and extract the alkaloids. Moreover, the alkaloids were not very soluble, and in addition the tannin bodies in the bark held them back. It was an easier matter when dealing with belladonna-root to extract the bases, for they could get the root in a fine state of division, and the alkaloids contained therein were much more soluble and were easily extracted. One could quite understand that potassium hydrate would possess power of penetration, but it was known to dissolve many substances such as cellulose, and by setting alkaloids free they were more easily attacked by the solvent. How far caustic potash acted upon this substance if left long in contact he could not say, but workers conducted their processes rapidly, and possibly there might not be much serious destruction. He himself had chiefly used ammonia hydrate, and he did not quite understand why so large a quantity of the solution of potash was required in the assay process for the liquid extract of cinchona. It struck him as being excessive. He met the difficulty of emulsification in the early part of his experience, and found that gentle warming facilitated separation. The oscillatory motion caused by slowly rocking the solvent and the liquid in a dish with the surface contact caused the extraction of the alkaloid, and answered quite as well as vigorous shaking. Mr. Gerrard referred to the mixing of chlorodyne, in which chloroform, ether, and treacle were emulsified together. The addition of a little water would cause the separation if that was desired, and this too he had found a good method of dealing with thick and viscid liquids. With regard to sediments in tinctures, which made their appearance especially after the tincture had been kept some time, he thought it was due to the union of some of the natural acids of the drugs with the alcohol. Chemical changes were set up resulting in the formation of precipitates. If the old tincture was examined it would be found to possess more aroma and be more agreeable than the freshly-made preparation. He was of opinion, too, that light played a very important part in the production of these sediments, for on examination of the shop-rounds the deposition was found to be greater on the side most affected by the light. He concluded by moving a vote of thanks to Mr. Alcock.

Mr. G. E. PERRY, in seconding, said Mr. Alcock had not referred in his paper to aspirating the emulsion through cotton wool by means of a pump. Personally he had found this to be of great advantage.

The vote was cordially passed, and Mr. Alcock acknowledged.

Halifax Chemists' Association.

THE annual general meeting of this Association was held at the Old Cock Hotel, Halifax, on January 15, the President (Mr. W. S. Thompson) in the chair. Mr. Gibson Dixon was elected President for the ensuing year; Mr. W. R. Black was appointed Secretary, and Mr. J. W. Tiffany Treasurer. The date of the annual dinner was fixed for February 6.

Northampton Chemists' Association.

THE monthly meeting of this Association was held at the Black Boy Hotel, Northampton, on January 17. The President (Mr. W. McKinnell) was in the chair.

ENLARGING THE SOCIETY.

THE SECRETARY (Mr. F. Cowdery) reported that he had written to the chemists of Northamptonshire inviting them to attend a meeting of the Association to discuss the possibility of joining the Northampton Chemists' Association in their meetings. He had received twelve replies, from chemists at Kettering, Peterborough, Rushden, Desborough, Wellingborough, Earls Barton, Daventry, and Rothwell. Ten of these were completely favourable, one was unfavourable, and the other, while agreeing with the proposal, pointed out difficulties in the way of attending meetings at Northampton, because the train service was so inconvenient. The Secretary is to invite the county chemists to a special meeting on January 30, at 4 o'clock.

SIDE-LINES.

Mr. E. C. ASHFORD opened a discussion upon the adjuncts to his business which the chemist might profitably undertake. After dividing chemists into three classes—the scientific analytical chemist, the dispensing chemist, and the general chemist—he pointed out that the chemist of today had to face competition which previous generations of chemists knew not. Doctors did their own dispensing; large dispensaries absorbed a great deal, if not most, of the dispensing which a chemist reasonably might have expected; grocers sold tartaric acid, borax, citric acid, essence of lemon, and mineral waters; the small shops in the secondary streets of the town sold a great many things which the chemist sold; the ironmonger took up the sale of oils and chloride of lime; and the drapers sold perfumery, violet-powder, and puff-boxes. All these things in former years were sold almost exclusively by chemists, and it was difficult to say what the chemist was to do to compensate himself for the loss of the trade in these things. As the Government compelled a chemist to pass hard examinations, it ought to give him some protection in his trade, so that chemists' goods may not be sold by other tradesmen. He suggested that chemists should sell oils, paints, petroleum, and other things, so that the public would go to them for these as well as for drugs, and, personally, he would have no hesitation in selling anything that he thought the public would be likely to ask him for. A brisk discussion followed, varied opinions being expressed.

Edinburgh Chemists', Assistants', and Apprentices' Association.

A MEETING of the Association was held in the Pharmaceutical Society's House, Edinburgh, on January 15, Mr. J. G. Slater (President) in the chair.

Mr. DAVID HARLEY read a

NOTE ON ICHTHYOL.

The word "ichthyol" is derived from the Greek word *ichthus*, a fish, the substance being obtained from a mineral oil distilled from a bituminous quartz containing fossil deposits—chiefly fish. The mineral oil is treated with sulphuric acid and neutralised with ammonia, the product being ammonium sulpho-ichthyolate, a complex sulphur compound, the formula for which is said to be $(\text{NH}_4)_2\text{C}_{25}\text{H}_{36}\text{S}_6\text{O}_6$. This is the preparation which is distinctively known as ichthyol, although there are other similar combinations of sulpho-ichthyolates prepared with

lithium, sodium, or zinc. It is a semi-liquid, dark-brown, tarry-looking substance, with a strong disagreeable odour. On heating it readily loses bulk, puffing up, liberating gaseous vapours, and carbonising; in fact, in appearance and smell it is very similar to boiling pitch or asphalt. On exposure to the atmosphere it thickens and sets like a varnish; this may be noticed when a drop is left on the side of the stock-bottle. It is one of the few substances which are freely soluble in water and at the same time quite readily miscible with fats and oils. The various forms in which it is compounded at the dispensing-counter were then reviewed.

ICHTHYOL OINTMENT

is the most common form in which the drug is used. An ointment containing as much as 40 per cent. of ichthyol, made up with lanoline, makes a satisfactory preparation.

Aqueous solutions with or without glycerin or alcohol are commonly used as gargles, injections, lotions, and sprays, another form of external application being ichthyol collodion, when it is used as a paint, or the substance itself may be used for the same purpose. Pessaries containing 10 per cent. are often ordered, and are now generally prepared with cacao-butter as a base. They were formerly made with gelatin, but these were found unsatisfactory on account of their insolubility, and, as pointed out by Mr. Hill, the combination of ichthyol and gelatin was not all that could be desired. In making the pessaries with cacao-butter as little heat as possible should be used. Suppositories are not often prescribed, but can be prepared in the same manner as the pessaries. Martindale suggests the addition of a little wax to give firmness, but a suppository containing 2 gr. of ichthyol with cacao-butter alone answers very well. The melting-point of cacao-butter and wax mixtures is usually higher than the temperature of the body, but it is said to be considerably lowered by the addition of ichthyol. Dusting-powders, plasters, and soaps are other forms in which it is exhibited for skin-medication.

FOR INTERNAL ADMINISTRATION

a usual prescription is:—

Ichthyol.	...	...	...	...	3ss.
Aq. destil.	...	...	...	...	3iss.

Dose.—20 to 25 drops.

This forms a clear-brown solution with a slightly acid reaction. Mr. Harley laid stress on the solubility of ichthyol in water, because in the "Art of Dispensing" it is given as a substance insoluble in water. A mixture containing

Ichthyol.	...	...	...	...	5j.
Potass. brom.	...	...	...	...	5ij.
Aq. ad ..	...	...	...	...	3iij.

requires a little care. On mixing the two solutions a turbid-brown precipitate falls and eventually settles as a sticky mass. The precipitate may be a sulpho-ichthyolate of potash, which is not so soluble as the ammonia compound, and is consequently thrown out. The addition of a little mucilage makes a more presentable preparation. Pills containing 2 or 3 gr. are sometimes ordered. Equal parts of ichthyol and liquorice-powder rubbed together and set aside for an hour or two before being rolled make a fair pill. To make a small pill spread the ichthyol on a slab and heat gently for a little, until a suitable consistency is acquired, when the mass may be rolled off without any addition whatever. The sodium compound might be preferred in this combination, but in the heating necessary the ichthyol does not appear to suffer, water merely being driven off. Capsules and tablets are other convenient forms for administration. Judging from the many forms in which this substance has been used and the variety of cases in which it is prescribed, it would appear to be held in good repute by the medical faculty, and it would be interesting to know wherein its therapeutic value lies. It is said to contain from 10 to 15 per cent. of sulphur in an easily assimilable condition. Antiseptic and alterative properties are attributed to it, and in chronic eczema, lupus, and various skin-affections, gout, rheumatism, gastric catarrh, constipation, and even phthisis, beneficial results have been reported from its use.

Mr. J. HUTCHEON then read the paper (see page 175) on

THE APPRENTICE-QUESTION,

which provoked the following discussion:—

Mr. DONALD MCEWAN said the first duty of chemists was to join the Pharmaceutical Society, and then discuss what it should or should not do; and Mr. CURRIE said the Pharmaceutical Society possessed no disciplinary or penal powers and could not possibly use the force or compulsion to which Mr. Hutcheon had referred. He thought the present standard of the Preliminary examination was necessary and right. He was also of opinion that employers ought to allow their apprentices more time for study. Mr. COWIE said the apprentice-difficulty was just as pressing in other trades. He thought the Society had missed a chance in not doing more to assist unqualified men. The School of Pharmacy did not seem adapted for the rank and file, but catered rather for the sons of gentlemen. He believed every student at Bloomsbury Square cost the Society about 30%. He did not see why the Pharmaceutical Society should not be like South Kensington, and recognise the schools of pharmacy throughout the country. They would not object to be inspected by competent men. Mr. MCPHERSON said if it is true that the apprentice-difficulty is common to other trades, one is inclined to ask, "Where do the boys go to?" Mr. DUNCAN said the Society was just what they made it. They could change the Council if they were not satisfied. The Bloomsbury Square School was open to the rank and file, but the men, being wise in their generation, preferred to go to the other schools. He thought the great difficulty lay in the masters. They made no attempt to train their apprentices, and only tried to get as much work out of them as possible. If the Society could compel masters to train their apprentices it would be a great gain. He thought it was too bad for examiners in their reports to blame teachers for what was really the fault of the masters. He found that students came to him quite ignorant of the simplest processes in practical pharmacy, and he really had to teach them the whole subject of dispensing; and this Mr. COWIE agreed in, adding that out of ten men who were asked to make simple syrup only two knew how to go about it.

Votes of thanks were awarded to Messrs. Harley and Hutcheon, and the meeting closed.

Huddersfield Chemists' Association.

A MEETING of the above Association was held on January 14, the President (Mr. R. C. Walshaw) in the chair. The minutes of the last meeting were read, after which a sub-committee, appointed to make arrangements for the proposed dinner, reporting favourably, it was decided to fix the date for February 5.

Tees-side Chemists' Association.

THE annual meeting of the above Association was held at Middlesboro' on January 16. The chair was taken by the President (Mr. T. Buck). The retiring President gave a short *résumé* of the work done by the Association, and especially emphasised the better feeling which had been brought about by the meetings of the Association.

The following officers were elected for the coming year:—President, Mr. W. R. Brackenbury; Vice-Presidents, Mr. Close and Mr. Round; Treasurer, Mr. T. Buck; Hon. Secretaries, Mr. W. Thompson and Mr. W. Finlayson; Committee, The officials, together with Messrs. Rothwell and Lee. The newly-elected PRESIDENT took the chair vacated by Mr. Buck, and proceeded to read a paper on "Trade Prospects," which was afterwards discussed.

Chemists' Assistants' and Managers' Society.

A MEETING of this Society was held at the Horseshoe Hotel, Tottenham Court Road, W., on January 22, when Mr. C. E. PICKERING read a paper on

SALARIES,

which was an endeavour to determine what the salaries of chemists' assistants and managers should be. The following is an abstract of Mr. Pickering's remarks:—

During his management of the employment-department of the C.A.U. it was his lot on so many occasions to receive inquiries respecting the pay of assistants, that it was resolved to bring the subject before the members, and, if possible, to arrive at some scale that the Council might adopt as the minimum, particularly in the case of junior assistants. The circumstances surrounding managers vary so much that it is almost impossible to fix any definite scale for their pay.

With regard to junior assistants, taking an average case, in which an assistant has satisfactorily completed a well-arranged apprenticeship spent in an average-sized provincial town, where he has been taught the general routine of a good family and dispensing business, with some agricultural work, and where his master has taken some interest in him, and seen that he has laid the foundation of his knowledge of pharmacy. He has passed the Preliminary, or its equivalent, examination before commencing his apprenticeship, and by the time his three years' pupillage has expired he should know not only how to make most of the ordinary preparations of the B.P., but be versed in the elements of chemistry and botany, and be fairly proficient in the ordinary duties of the counter. Assuming he is 19, he will have two years at least to pass as a junior before he can qualify, but he can be very useful in a general business. Surely he is worth at least 10s. a week with board and lodgings? Mr. Pickering thought he should get 30% per annum indoors, or 75% outdoors. By the time he is desirous of qualifying he should have increased his commercial value to at least 40% per annum indoors, or 85% outdoors, but many men at the age of 21 are worth more. Then follows a period when an absence from business—which may range from six months to a year or more—becomes necessary in order to become qualified. Having therefore thoroughly studied the various subjects required and successfully negotiated the Minor, it may become

A VITAL QUESTION TO DECIDE

whether to at once return to business or acquire the Major diploma. Every man who wishes to be able to accept any scientific position which may present itself should have the Major certificate at least, and it is advisable to secure it right away if possible. Assuming that he returns to business after passing the Minor, with his diploma and previous experience he should not expect to receive less than 60% per annum indoors, or 120% outdoors to start with, with an advance in three months. It must be remembered, however, that there are many historic houses which do not pay more than 40% indoors, or 90% out, but the value of such appointments is not to be reckoned in pounds, shillings, and pence. The average man who wishes to improve himself as quickly as possible, to widen his experience, and increase his income, would be well advised for a time to seek short berths, say go as *locum tenens* for two or three years. It is really wonderful how bright a rolling stone becomes, and what polish it acquires. The various methods and ways adopted, and believed to be absolutely the best by so many different chemists in divers parts of the country, are really very refreshing, besides broadening the views of the assistant and enabling him, as a mere disinterested party, to draw a correct view of the matter. The assistant may with great advantage also spend a year or two abroad, particularly in some continental health-resorts, when the knowledge gained is invaluable. Such an assistant at the age of 25 should be unable to undertake the management of a good family and dispensing business, where two or more assistants are kept. And at this stage it is difficult to say what salary he should command. So much depends on what is required of him, the responsibility, and number of people in his charge; but a capable man is worth 80% indoors and from 140% to 160% outdoors, to commence with, and a commission on results. Suppose he receives 156% per annum, that, at an average of ten hours' actual attendance in the pharmacy per diem, works out at (during six days a week) 1s. an hour, which he (the speaker) did not think was an exorbitant figure. A good plan recommended to employers is to pay the manager 10 per cent. on the turnover, and allow him an extra 2½ per cent. on all increase of business, which, Mr. Pickering said, is fairer to the employer and the manager than a fixed annual salary. It gives the manager more scope for

his energies, and he knows that he receives, as well as earns, his reward for his industry.

School of Pharmacy Students' Association.

THE first meeting of the new term in connection with the above Association was held on Friday evening, January 17, Mr. H. S. PHILIPS occupying the chair. It took the form of "impromptu discussions," and was much enjoyed by everyone present. All the members were quite on their mettle, and some capital impromptu speeches were made. The topics chosen proved very attractive, and not only included matters concerning pharmacy, but ranged so far as to include "Trade Unionism," and the latter had its supporters even at the "Square." Time, unfortunately, did not permit of every subject submitted being discussed, and an interesting meeting was brought to a close by a hearty vote of thanks to the popular Chairman.

Pharmaceutical Society of Ireland.

EXAMINATION RESULTS.

Pharmaceutical Assistant Examination.—The following passed: T. Arnold, W. J. Balmer, J. Taylor

Registered Druggist Examination.—J. H. MacLaughlin, C. Y. Oakman, and S. J. Smiley passed. One candidate was rejected.

The following is the pharmacy paper given at the Assistants' examination:—

1. Enumerate liquid preparations containing opium, and give dose of each.
2. Give dose and strength in active ingredients of B.P. representative for Easton's syrup.
3. Enumerate hypodermic injections of B.P., giving strength and dose.
4. Give composition and strength of the following:—

Tinct. sennæ	Ung. conii
Decoc. aloes co.	Pulv. kino co.
Tinct. lavand. co.	Mist. sennæ co.
Pulv. ipecac. co.	Ung. iodi
Mist. ferri co.	Pil. asafet. co.
Lin. pot. iod. c. sapon	Pil. ipecac. c. scillæ

5. Under what conditions are the following retailed?—

Liq. hyd. perchlor.	Tartar emetic
Tinct. aconit.	Liq. arsenical
Syr. chloral	Tinct. cantharid.
Phenol	Ext. ergot. liq.

The following paper was set at the Registered Druggist examination:—

1. If 35 cwt. cost 36*l.* 17*s.* 11*d.*, how many cwt. can be bought for 25*l.* 6*s.*?
2. The sp. gr. of glycerin is 1.25. Find the weight of 2½ quarts.
3. Find the value of ⅔ of ⅔ of a guinea — ⅔ of 7⅔ of a half-crown.
4. Cod-liver oil is bought at 5*s.* per gal.: at what price per pint must 40 gal. be sold to gain 5*l.*
5. Under what conditions are the following sold:—Red precipitate, liniment of aconite, opium, tartarated antimony, blistering liquid, liquid extract of ergot, liniment of belladonna?
6. State how you would distinguish Epsom salt from sulphate of zinc, calomel from sub nitrate of bismuth, arsenic from cream of tartar.
7. Write an essay on "Christmas."

NEW ZEALAND TARIFF DECISIONS.—The following decisions bearing on the New Zealand Customs tariff have been recorded:—

Eucalyptus, "Sanders"—		
As eucalyptus oil, in bulk or bottle	...	20 % <i>ad val.</i>
Soap compound, rose, for the manufacture of soaps	...	Free
Weed-killer, "Acme"—		
As "not otherwise enumerated"	...	Free
Wine, "beef and malt" and "coca" (a)—		
As wine, other than sparkling and Australian	...	6 <i>s.</i> per gal.
Wine, "beef and iron," "quinine," and "quinine and orange" (a)—		
As drugs and druggists' sundries, not otherwise enumerated	...	15 % <i>ad val.</i>

(a) Whether proprietary or otherwise

Galen Glee-club.

The Christmas Gathering.

A DARK and dreary fog-bound Christmas-tide,
Whose leaden hues fore-stemmed the surging side
Of gay Ricardo's spirits, down they sank
Deep as a dungeon; till a noisome clank
Reverberating from the banquet hall
Recalled him thither, and the woesome pall
Lifted like magic, for his glance surveyed
Full in its pride the wonders he had made.

Wreathed round with holly prickly stood the Throne,
"Vox et præterea—" thus the motto shone,
Extracts in plenty (from Knapman's treasured tomes),
Festoons of fibres and leaves and roots (from Holmes),
Rare herbs (quite Greenish), fruit both ripe and Green,
Mottoes and mountings, the like were never seen,
Blended in brightness and dazzling in array,
Shining with a splendour that mocked the light of day.

Then, on gentle tiptoe, moved Ricardo round
The board, 'neath viands groaning, and to each chair he
bowed

The little gift of Christmas that Santa-Claus-like came
A-bolting from the Blue as aloud he'd called the name
Of those whom most he cherished, but be he friend or foe,
He promptly was provided with a something *à propos*.



The penny trump from Houndsditch or the Jewsharp from afar,
With crowns and swords of tinsel for the valiant men of war.

Then he summoned Schreiber, who bore with tender care
A jewelled golden easket, which he placed upon the chair.
Reverently he fumbled the golden key in lock,
Timid glanced a-round, fearing One there'd be to mock.
All aflash it lay on its velvet counterpane
The symbol of True Pharmacy, with link-completed Chain.
Each link drooping pendant of the chastest West-end cut,
Emblem each of wisdom—and the zeal of Borthwaye Knutte.

Soon in long procession solemn men with quills,
Learned youths with inkpots, legal lights with Bills,
Lynx-eyed luminaries, pallid men with proofs
Chanting weird-like music, drowning restive hoofs
Of equine neighbours pawing in that perfume-haunted Place
So well-beloved of candidates who run the Minor race,

And who think while long in patience they wait their
Lords' behest
Of the ammoniacal odour and the uric-acid test.

Blandly watched Ricardo, grimly Schreiber glared,
Slowly rolled the music while brazen trumpets blared.
The Staff with lungs of leather ringing forth their weird
refrain,
As with brandished proofs and inkpots they thus chanted
of the Chain.

THE CHANT OF THE CHAIN.

Wondrous circlet, regal fashioned,
For the massive manly chest,
Of the great Ones whose impassioned
Love for Us hath made them blest.
Wise Defender,
Praise we render,
(At the Borthwaye Knutte request.)
Links to bind a stubborn Craft with,
Golden discs that mark our past,
Rope to hold the breaking Raft with,
Warp the bosun to the mast;
Praise we render,
Homage tender,
(Lest Cartegno look aghast.
Chain to weld our interests closer,
Badge to prove our learning, skill,
Fit to slay the cutting Grocer,
Or the Comp-an-ies to kill.
Useful, tender,
Gold defender,
Aid us with another Bill.

Thus in unison we praise thee,
Paying tribute to thy worth;
May no vulgar man debase thee
With the thought of things of Earth.
Praise we render,
To the tender,
Loving thought that gave thee birth.

The rolling echoes of the dying Chant
Had scarce grown silent, ere the adamant
But urbane Schreiber held up warning hand,
And all expectant stood, like stricken band.
Full soon without a lordly step was heard,
A knightly figure entered, richly furred,



And, casting mantle from him, with a strut
Stood forth disclosed the Lord of Borthwaye Knutte.
The Staff bowed low, then cheered till rafters rang;
He made to speak—but changed his mind and sang.

THE SONG OF THE NUT.

A little Nut grew on a Bloom-Berry tree,
And a bard little Nut to crack was he;
But he grew quite ripe, and no green you'd see
Behind him or before, O.
And he made such sums from the books that he read,
Did this clever little Nut with the wise, wise head,
That his wondering neighbours very soon said
"He's a Heaven-born Audit-or, O."

Chorus.

The bright little Nut with the long, long head
Grew so wise that his brethren each one said,
He must be an Audit-or, O.

So they plucked him straightway from his perch,
And among their sums they made him search
Till he fain would have left them in the lurch,
Or have sinfully shed their gore, O.
But he soon found the sums were as clear as day,
And he'd nothing to do but to smile and to play,
So he gathered big plums, and he gave them away,
Did this generous Audit-or, O.

Chorus.

He collected plums by night and by day,
And to good little boys he gave them away,
This ingenious Audit-or, O.

Now his fame grew great in the neighbouring trees,
And crowds came a-gazing from over the seas
Till the whole world shook if he chanced to sneeze
Or unwittingly to snore, O.
And at length his success so flew to his brain
That he mocked all his friends till he gave them pain,
So they cracked the Nut with a badge and a chain,
The poor little Audit-or, O.

Chorus.

This simple tale you must take to heart,
And never, never seek from your tree to part,
Or you'll come to your end by some lightning dart,
Like this far-famed Audit-or, O.

The pale effulgence of the Ancient Moon
Beamed radiant in the doorway; and a boon
He craved in tone commanding, while the hush
Of awed expectancy brought faintest blush



Of pride to marble cheek, though clear-cut brow,
Bestrewn with silvered locks, perturbed was now.
Their Over Lord, he told them, from his heights
Of Northern fastness hied him many nights
Before to join them, but the snow-wreaths piled
In mountainous altitude bestayed him. Wild

With desire to join his band, he strove
To cut a path with epigrams from Jove
(Surnamed Atcano); but the snow was thick.
E'en Gee-Jaye's fiery speeches froze up quick,
And progress hopeless seemed; so, quite resigned
To Fate's decree he Marconi-ed by wind
A message telling of his woful plight,
And deep regret that not with them that night
Could he disport himself. And this his will:
That bold Cartegno his lone seat should fill.

So, sadly mounting to the vacant Throne,
He squashed th' unheeded casket. With a groan
Of mingled terror and despair they saw
The bauble splintered, and a long-drawn "Ah!"
Was followed by a scramble for the links.
The grieved Cartegno, mute with horror, sinks
Into his seat, while Schreiber gleams the floor
With careful fingers, kneeling, puffing sore.
Remains of splintered badge at length are got,
And broken links are Welda-ed on the spot.
Peace once more reigns, good humour soon restored,
Cartegno clears his throat and thumps the board;
Silence obtained, he views the waiting throng,
And, smiling slightly, bursts forth into song.

THE PRESIDENT'S PLIGHT.

Can you picture the sight
And the terrible plight
In which our good Chieftain has fallen;
With the snow all around
In a marble-like mound
It must really be something appallin';
With a frost-bitten nose,
Tender, tingling toes,
And nothing to comfort or cheer him;
No friend to condole
(Ne'er a pan to his sole),
Or Councillor anywhere near him.

No Registrar watchful of conduct unlawful,
It really must be quite too utterly awful.

He sits grave and grim,
Hums the 49th hymn,
And glares at the views in the carriage;
Then he drops off to sleep,
And a heavenly peep
Of a banquet at Jacob Bell's marriage
Appears in a dream;
But he wakes with a scream,
For he sees now Camlachie pursue him,
And Dobbs and the Devil
Have joined in a revel
With weed-killer-men to undo him.

Through all the long ages he shakes and he shivers,
While cold perspiration runs off him in rivers.

Then at length in despair,
He dishevels his hair,
And stamps up and down the compartment;
But the merciless snow
Seems unlikely to go,
And he prays for a Clearance Department.
He dreams of his bed,
Of the speeches he's made,
Till he feels just like Pilate the Pontius;
So his hunger to stay,
He gets out the *P. J.*,
And he reads it—and falls down unconscious

'Tis a criminal thing for a wicked prescriber
To order his victim a column of Schreiber.

Loud genial laughter in the outer Court,
The shaken hand, the quip, the quick retort
Proclaim the arrival of the Wise Men all
Who rule in Council or in Question Hall.
These be the proud Elect whose monthly gait
Betake them thither to deliberate
The ponderous problems needing careful thought,
And careful speech; lest haply there slip aught
To th' Outer World that is not meet to hear,
And might prevent our jealous craft cohere—

(At whic' stage the Poet awoke.)

Our Town Traveller.

SINCE my last report I have cable-carred in Modern Athens and glided along the electric pathways of the commercial capital of Scotland, Glasgow, to wit. Edinburgh never looks more picturesque than when the Castle crags are covered with snow, and the Broomielaw is at no time more grimly businesslike than in the dank days of the Northern winter. Some reference to my calls in the Winter Issue of THE CHEMIST AND DRUGGIST is, however, quite appropriate. In old Edinburgh one naturally explores the Canongate region, so rich in historic association, and there, within a stone's throw of Holyrood is the factory of

MESSRS. DUNCAN FLOCKHART & Co.

As in many other businesses bearing a world-wide reputation, the premises have not been built for external display. As first conceived and executed the main building was a big substantial structure standing four-square to the winds from the Forth; but on several occasions during the past fifteen years extensions have been made; yet the internal arrangements in office and warehouse are of reflective of well-ordered business. In the course of a short conversation with Mr. J. L. Ewing, who greeted me heartily as the emissary of "The Chemists' Journal of the Empire," I gathered that the manufacturing and wholesale business is making rapid though unobtrusive progress. The firm have added the proverbial thousand things to the one upon which their fame was established—chloroform; but these are chiefly of the galenic type that was wont to be called "Elegant Pharmacy." The counter-speciality trade has not yet got a grip of Scotland, although Mr. Ewing told me that his firm put up many proprietary articles for customers, but these are merely to meet a local demand; and, as far as I could gather from various representatives of wholesale houses with whom I discussed the subject, little has been done in Scotland to create a market for factory-packed counter-specialities which figure so largely on the south of the Tweed. The Scottish pharmacist is perhaps nearer being a pharmacist in the true sense of the word than his English confrère. His business is still practically confined to dealing in drugs and chemicals, and dispensing prescriptions. Counter-prescribing, except in parts of the West of Scotland, where competition with the doctor-druggist has to be met, is not generally prevalent, and therefore the need for proprietary articles is perhaps not so strongly forced upon the chemist.

Continuing my journey in the Holyrood district I happened on 93 and 109 Abbeyhill, where

MESSRS. J. F. MACFARLAN & Co.

have for more than a generation scented the neighbourhood with the aroma exhaled from decoctions of opium. I was received by Mr. David Brown and his son, who talked with me a little while on the advances of the firm's business and the condition of pharmacy in general. It is a remarkable fact that from these quiet precincts of Auld Reekie export-business in spirituous B.P. galenicals has been quietly, but surely, built up under the advantageous conditions granted by the Excise a decade since, specially (it was thought) for London houses. Messrs. Macfarlan as coadjutors, so to speak, with Lister when he was Professor of Surgery in Edinburgh, have since that time kept pace with all the developments of antiseptic surgery, so that the manufacture of antiseptic dressings is now a large branch of their business, without interfering with the older branches—alkaloids and chloroform manufacture, as well as fine chemicals generally.

Smith's Place, Leith Walk, is one of the quietest retreats, but there one finds the modest sign of

MESSRS. RAIMES, CLARK & Co.

There I was greeted by Mr. Davies, whose forty-six years' connection with the firm embraces intimate work with the late Mr. Richard Raimes, senior, the founder of the firm, and the pupilage of the present principal Mr. Richard Clark. With Dr. George Coull as the "Ferguson" of the party. I was conducted all over the extensive establishment, which

consists of three floors in the main building and numerous off-shoots. A walk through the store-rooms is a revelation of the firm's turnover in druggists' goods. An important department of their work is the manufacture of medicinal capsules, as may be judged by the fact that they order a ton of gelatin at a time. Cascara sagrada is also ordered in ton quantities. Mr. Davies, whose long experience of the drug-trade entitles him to speak with authority, remarked on the influence this American drug has had on the sale of senna. Whereas twenty or thirty years ago the firm were accustomed to buy ten or fifteen bales of senna on the London market, now five suffice, as the salts and senna of our forefathers is replaced by the more elegant pharmaceutical laxatives of the present day. I could not help remarking that the Americans balance the account by buying more senna than ever, for to them chiefly is due the increased output of that older but quite as efficient laxative. The Smith's Place establishment, with its "wets," "dries," "heavies," and so forth is an excellent proof of the fact that floor-space may be as precious outside London as in it; every department appeared filled to overflowing, and both Mr. Davies and Dr. Coull have been smitten by the "more" room malady that afflicts the wholesale as much as it did little Oliver. But I understand that another two-storeyed building is in contemplation to relieve the pressure of the present congestion. Passing through the wet and dry rooms, and spending more than a few minutes in the steam laboratories, with their old-fashioned solid brickbat furnaces and modern chemical appliances cheek by jowl, Dr. Coull introduced me to his "sanctum sanctorum," as he called the experimental laboratory. I was glad to hear him say that one of the mainstays of his labours is a set of THE CHEMIST AND DRUGGIST and its DIARIES from 1881. It is from this laboratory that Dr. Coull (who is, of course, a Major man) controls the work in the manufacturing laboratory.

Mr. Peter Boa, at the Jubilee-dinner of the North British Branch, on December 18, 1901, recalling the names of the founders of the branch, mentioned, amid enthusiastic applause, that they had present with them on that occasion Thomas and Henry Smith, two descendants of the third generation of

MESSRS. T. & H. SMITH & Co.

These are the sons of Peter Shanklie Smith, and they are now the proprietors of this well-known business. In the course of a short chat with the elder of the two, Mr. Henry Ewing Smith, he told an incident *à propos* of his marriage which illustrates the development of this well-known business. Mr. Smith told me that on the occasion of his father's marriage the employés of the firm, about a dozen in all, were entertained to a cake-and-wine banquet in the private room at 19 Duke Street, Edinburgh, the original home of the firm. In order to carry out a similar entertainment last month it had been found necessary to engage the Royal Arch Mason Hall, one of the largest public halls in Edinburgh, where 250 of the employés, from Edinburgh and Glasgow, were entertained to dinner. These represented merely the employés in Scotland, for the firm have an important branch in London over which Mr. H. Ewing Smith presides, and the London employés had a gathering of their own. A cursory inspection of the Edinburgh business premises provides further evidence of the progress of this firm since the late Thomas Smith made his first batch of morphine in a frying-pan in the cellar of 19 Duke Street. Extensive alterations have recently been made at the works, a new building of three floors having been added, and in ten years, I was informed, the staffs at Duke Street and the factory have been more than quadrupled. It is interesting to recall in this connection that Thomas Smith was also the first manufacturer of aerated-waters in Edinburgh, which business is still an important side-line to the chemicals and pharmaceuticals which are the chief products of the house.

Glasgow is one of the best business-cities in the world and her citizens owe the fact to their own enterprise, which has overcome many natural defects of location. They have almost literally hewed a river-path to the ocean highway, and annexed mineral wealth of far other territories than

those which naturally pertain to the district. In chemical-manufacture, the alkalis of C. Tennant, Sons & Co. (Limited) and the bichromates of J. & J. White (Limited), of Rutherglen (to mention only two branches) are world-known, and there are many other firms more directly connected with pharmacy which deserve to be better known outside Scotland than they are. During my visit (brief at the longest) I called on

MESSRS. J. C. STEELE & CO.

at their works in Port Eglinton. It is there that Steele's chloride of lime is put into air-tight packets, which have earned the blessings of innumerable errand-boys and apprentices, besides the appreciation of housewives. I gathered during my visit that chlorinated lime is still an important factor in domestic and sanitary economy. The size of Messrs. Steele's premises and the stir and industry within are evidence of the fact.

The fine new building in Renfield Street, Glasgow, which, Phoenix-like, has risen from the ashes of the old warehouse of

MESSRS. W. & R. HATRICK,

is a place well worth seeing. I had an interview with Mr. W. Hatrick, who, with his brother, now carries on this large wholesale drug-business. The internal fittings, both in office and warehouse, would give points to many London houses, and the Messrs. Hatrick, who, while sticking to a historic reputation, have adapted themselves, as far-seeing young men do, to the probabilities of the future. Mr. Hatrick had much to say on the question of some varieties of present-day trading which would commend him to most pharmacists, and he had withal about him an air of quiet capability which augured well for the future of this business.

The busiest crossing in Glasgow, and said to be second in intricacy to the meeting of ways at the Bank of England, is where Jamaica Street crosses Argyle Street. Almost overlooking this corner—at 191 Argyle Street—are the business-premises of

MESSRS. LORIMER & MOYES,

the druggist sundriesmen. This business was established in 1851, and was acquired about three years ago by Mr. William Dykes. The Argyle Street premises have only recently become the headquarters of the firm, which for nearly forty years previously was at 56 Howard Street. It was originally a brush-and-comb house, and to this day, Mr. Dykes assured me, they hold a stock of these commodities much greater in quantity and variety than any other house outside London. It is the aim of Mr. Dykes similarly to establish a druggist-sundries' business of the first class to vie with the London houses. A walk round his establishment proved to me that he is in a fair way towards the accomplishment of this desire. I traversed three floors (each about 100 feet by 40 feet) packed with sundries. Six travellers are continually on the road for the house. Messrs. Lorimer & Moyes are the agents in Scotland for the soaps and perfumery of Messrs. T. F. Bristow & Co. (Limited), and they avoid business with cutters. They deal directly with the retailer. A word or two in reference to what I saw will not be out of place. On the second floor was an excellent selection of sponges of all sizes, shapes, and grades, from the common 12. slate sponge to the fine Turkey cnp. These were loose in hunkers, ready to be picked. Mr. Dykes also makes a feature of boxing sponges in assorted lots to suit all buyers. Large stocks of willow, cardboard and turned-wood boxes are always held. The top floor is kept exclusively for boxes and feeding-bottles, of which about half a million are sold in twelve months. Toilet-articles and perfumery bulk largely in the stock, and the increase in business during the past few years shows that the impetus which Mr. Dykes has put into things is already productive of results.

One of the most interesting of my interviews was at 48 Dundas Street with

MR. WILLIAM COWAN,

the inventor of the vaccination-shield. Mr. Cowan appears to be one of these inventive geniuses to whom nothing comes amiss; but it was undoubtedly the happy thought of the shield which was the turning-point in his career. The story

of its inception has been told in the *C. & D.* more than once, the Editor informs me, but he will at least permit me to say that Mr. Cowan's baby, for whom the first shield was made, is now nearly 6 feet high, and gives a hearty hand-grip. By the way, this first shield, after it had done duty on Baby Cowan's arm, was lent to neighbours right and left, and ultimately it got into the hands of a chemist, who, after seeing his own infant safely over its trouble, sold the shield for sixpence. This is the reverse of the "bang-gaed-saxpence" story; but Mr. Cowan would give a 20s. note for that shield now. For it launched him into the wholesale manufacture of the article, with results which all pharmacy knows. There have been many improvements and varieties of the shield made since then, but the shield of chamois-padded silk and satin-covered wires which the Duchess of Fife used for her children is, in construction, substantially the lemonade-wire and tape product of twenty years ago. [It strikes us that O.T.T. has worked off the story after all. —Ed.] Mr. Cowan is, besides, the manufacturer of many mechanical surgical appliances. He has acquired a fame amongst the physicians of the city for the excellence of his artificial limbs, and he claims to make "the lightest leg in Glasgow." He has invented many ingenious contrivances for the relief of sufferers with maimed or contracted limbs, and the production of trusses is one of his specialities. Since my talk with him I observe from a Glasgow paper that Mr. Cowan has invented a machine for registering the distance for which the passengers on a tramcar may be carried for a given sum; an appliance that is likely to be adopted by several municipal tramway companies.

Having forsaken the (more or less) p imrose paths of dalliance among the snow wreaths of Scotland, I took up my usual round, and one of my first visits was to the works of the

VINOLIA COMPANY (LIMITED)

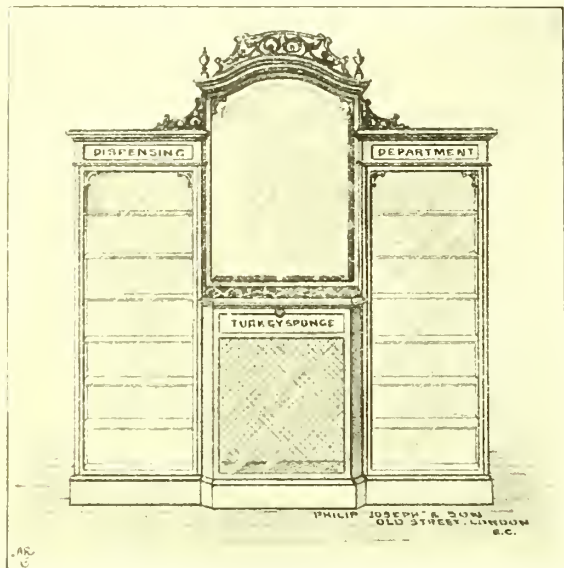
in Malden Crescent, N.W. There Mr. Welch plucked a morsel from the fleeting hour, and ordered up Vinolia delicacies for my delectation. These included a new label for Vinolia white-rose perfume (1s. size), a new sixpenny line of perfumes, and a new series of twopenny soaps—glycerin and cucumber, musk-brown Windsor, and "Peach Bloom." These are all nice cakes, beautifully milled, and, the latter in particular, is exceptionally good value. The "Peach Bloom" series is large in size, with a flowery impress which takes the eye, and it is to be had in nine different perfumes and colours. Mr. Welch predicts a great future for this soap, and I think he is justified. "Fo-Fum" carbotic soap is being pushed as a valuable anti-smallpox remedy, and the penny "Diamond" brand honey-cake is not looked upon as one that will be a difficult seller. In the course of our conversation I gathered from Mr. Welch that the company have now between seventy and eighty travellers in their employ, fifty being at work in the United Kingdom and the balance "even unto the uttermost ends of the earth." It must be evident, therefore, that the sale of the Vinolia preparations is not declining, and as the directors make it a point to produce one or two novelties a month, the Vinolia list is not getting shorter. This reminds me that the Vinolia price-list is as dainty a production as are the rest of the Vinolia products. Mr. Welch, who, by the way, claims that the Vinolia Company can sell pure otto of rose (in 1-oz. bottles) on better terms than most people, showed me besides various partly finished "evolutions" for the future. The most striking is "Idolita" soap, which will be sufficiently sumptuous in get-up to make it *à propos* to the Coronation. The design for the box (to hold three cakes) is a Burne-Jones maiden in art colours on a ground of white satin. It looks exquisite, and the price will probably be in the neighbourhood of half-a-guinea per box.

My descent upon

MESSRS. PHILIP JOSEPHS & SON

in their stronghold at 93 Old Street, London, E.C., the other day resulted in the production of various new designs in shop-furniture for my inspection. It seems strange that I see something new at each visit, but next time there is sure to be something "newer." On my last visit the new dispensing-screen figured overleaf engaged a good deal of my attention. It is constructed in solid mahogany, and the features are the carving, the cases with plate-glass shelves

all the way down each side of the mirror, and the "brilliant" lettering. The last is a decided improvement. It has the appearance of gold lettering, and the back-ground may be cream, dark, or light mahogany colour as desired.



The lettering is done by stamping out of sheet copper with solid steel dyes, and is very chaste to look upon. This "incised-gold" lettering has caught on, and the newest designs in furniture or facias I saw were done by the copper process. I had to confess an admiration, also, for a large mahogany and plate-glass centre case for holding cameras or optical goods, which is to accompany the aforementioned screen to its owner in South Africa. It was a handsome case and so daintily fragile in appearance that I positively received a shock when Mr. Philip Josephs, jun., to demonstrate its strength and stability, began to vigorously kick the plate glass. A feature of the wall-cases, and indeed of all the two-doored cases now constructed by Messrs. Josephs, is that each door opens on a separate compartment. There is a neat central division, and it is no longer necessary to open both doors in order to get admission to a large case.

A visit which I paid to

MESSRS HENRY P. THOMPSON & CO.'S SHOWROOM

at 93 Aldersgate Street, E.C., enabled me to make a thorough examination of Messrs. Bauer & Black's plasters, surgical dressings, suspensory bandages, and chest-protectors, about which, I understand, an illustrated inset is to be distributed with this number. It is difficult to convey an adequate impression of the real attractiveness of these goods. Messrs. Bauer & Black seem to have the artistic sense highly developed, and it is associated with a definite system which together are expressed in an extensive variety of styles of packages. I made notes of a few of the articles which, I think, merit the attention of the trade. First, their mustard-plasters in roll and leaf are perfectly flexible, smooth, and do not shed mustard-powder in the least. Then there are kidney-plasters on swansdown which can be sold without stamping, and a recommended one, called "King's plaster," which Messrs. H. P. Thompson & Co. are to make a speciality of. Next I inspected a series of adhesive plaster in spoils, from the 1½. pocket-box to the 10-yard spool; there are various widths for surgical purposes. Isinglass-plaster is another good B. & B. article. It is spread on silk (skin colour, black, and white), and can be had by the yard or in pocket-cases—in fact, the 1½. pocket-cases, containing a piece of each colour, is as good a pennyworth as there is in the market, and makes an attractive display. The Bauer & Black corn and bunion plasters, in boxes and bulk, are also worth attention. I made a careful examination of their belladonna-plasters. As the United States alkaloidal standard for these is lower than the British Pharmacopœia one, Messrs. Bauer & Black specially prepare belladonna-

plasters for the British market so that they conform to the B.P. standard. They use extract of belladonna-root with indiarubber basis. The analytical results from six plasters show consistent uniformity in the alkaloidal strength. Another plaster which Messrs. Thompson are to make a leading line of is a strengthening one called the "Rex" porous-plaster. This will be a speciality, and only one chemist in each neighbourhood will be supplied with it.

Turning to the surgical dressings, I noticed that the plain gauze bandages are sterilised and are put up very neatly in parchment paper, a 10-yard bandage being as compact as an ordinary 6-yard one. Iodoform and other gauzes are put up in clear amber glass-bottles containing 1 yard or 5 yards, the containers being aseptic and sealed. The gauzes are also packed in paper packages similarly sterilised. The prices struck me as just right. Messrs. Bauer & Black are the makers of the O.P.C. suspensories, and Messrs. Thompson are carrying a very complete line of these goods. It is impossible to refer in detail to the numerous varieties both in price and style, but one feature should be mentioned—namely, that each suspensor is packed in a box or card envelope with the number and designation on the side, so that the retailer can easily pick from his stock what his customer requires. The card-envelopes referred to can be opened up and displayed. A forcibly-written and well-illustrated booklet regarding the use of suspensories is supplied to retailers for distribution. It is quite American. As an indication of the prices of the suspensories we noted No. 36 with a silk bag nicely boxed, which costs 8s. 9d. per dozen. The firm also stock athletic supporters. In chest-protectors one of the most attractive and saleable articles is the "Frost King" chamois vest, which is largely used by golfers. It is a tailor-made article with elastic gussets on each side, and costs, wholesale, 5s. 10d. A similar vest, named the "Frost Queen," is largely used by lady golfers in the United States, who wear it as a vest underneath their jackets.

I may also mention that Messrs. Thompson have secured the sole supply to the British Empire of dispensing and toilet bottles, produced at a leading American glass-factory. These are of white-flint glass, perfectly transparent, without bloom, and of exquisite finish. I would specially commend the "Oriole" (a new oval for toilet-preparations), and a dispensing-bottle flat on one side and oval on the other. Chemists who like to do things quite differently from others, and who are not afraid of novelties, should get samples of these. Mr. Thompson also informed me that he has obtained from Mr. G. B. Evans, the celebrated Philadelphia chemist, the sole agency for his Violet talcum-powder, which is popular in the United States, as it doubtless will be here very soon, for Mr. Thompson has entered into a big advertising contract, which begins in February, and which covers the leading ladies' papers. The firm want at least one agent for the powder in each town. It is put up in attractive boxes, with dredger-tops, a dozen boxes being in a showbox. It sells at 1s.

I dropped into the offices and showrooms of

MESSRS. PARKINSON & CO.,

at 27 Southampton Row, W.C., the other day, and had a talk with Mr. Roe, their shop-fitting expert. Messrs. Parkinson, who have recently taken over the business formerly carried on by Messrs. George Treble & Son, are by no means beginners in the art of shop-fitting. As a matter of fact, they have been shop-fitters in a quiet way, Mr. Roe told me, for about eighty years, but the acquisition of Messrs. Treble's business will now probably bring them more in touch with chemists. They have done much good work, as I could see, for various firms of chemists, and they have the great merit of originality in style of structure—a thing for which all up-to-date chemists sigh. Their endeavour, as expressed by Mr. Roe, is to give the best workmanship available for a fair price, and to avoid all "fly-blown phylacteries" in designs.

The latest addition to the list of cosmopolitan pharmacies to be found in Oxford Street, W., is that of Manrieve & Co. This establishment is a unique example of chemists' shop-fittings executed by

MR. H. MILLS,

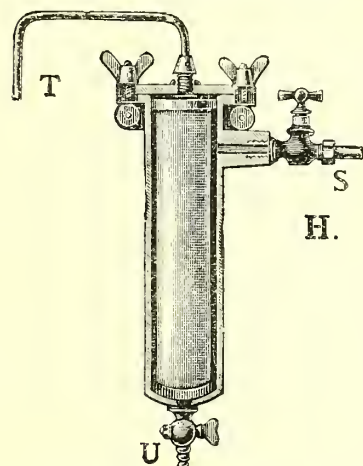
of 163 Old Street, City Road, E.C. The woodwork is in dark mahogany throughout, with carved cornices showing

careful workmanship. The counter is narrow (leaving room for customers), with brass supports all along, with glass shelving for the display of proprietaries and sundries. A noticeable feature is a series of cupboards, with mirrored doors of bevelled glass, that form part of the wall-fittings behind the counter, and there are many points from which an inquiring brother pharmacist might get a wrinkle in shop-furniture.

The new germ-proof filter, named the "Tubor," which the

BERKEFELD FILTER COMPANY (LIMITED)

have recently introduced is the same in principle as former filters made by this firm. The advantages of the new filter,



however, are obvious on examination. In the company's premises at 121 Oxford Street, W., I inspected several of the candles recently, and found that although of the same Kieselguhr composition the material is closer in the pore and smoother to the touch than formerly. This not only increases the efficacy of the cylinder as a filtering-medium, but makes it much more durable. The "Tubor" cylinders are less fragile than formerly—a fact specially noted by Dr. Andrew Wilson, who regards the "Tubor" as "the ideal of the sanitarian's definition of a true filter." The house-filter which we reproduce illustrates the principle of all. S is the inlet tap, T the filtered-water outlet, and U the flushing-tap. The price of this variety has been reduced from 42s. to 30s., and proportionate reductions have been made in the prices of the other kinds.

VANILLA.

Hearing that Messrs. GEORGE CHURCH & Co., vanilla importers and dealers, had removed from 149 Fenchurch Street to 15 Little Trinity Lane, E.C., I called round the other day to have a look over their stock. The firm do a very large business in Seychelles, Mauritius, and other vanillas, and I inspected a number of exceptionally good samples of these. The firm have built up quite an important business with large users of vanilla, including manufacturers of chocolate, wholesale druggists, &c., and they are desirous of still further extending their connection with the drug-trade. Mr. Church, principal of the firm, has had twenty-five years' experience of the Mincing Lane vanilla-trade.

Recent Patents.

THE following are abstracts of complete specifications recently published, of inventions for which letters patent have been granted. Money order offices sell postcards, price 8d. each, which, on filling up with the number and year of the patent and posting, secure a copy of any complete specification.

Aluminium Solder.—J. A. McLeod, H. E. Provost, druggist, Haverhill, U.S.A., and H. Smith, Lowell, have patented a solder for aluminium composed of zinc 25 parts, aluminium 6 parts, and tin 69 parts. The solder may be used with other metals. (19,836, 1901.)

Sweet bag.—T. Kerfoot, manufacturing pharmaceutical chemist, Ashton-under-Lyne, has patented an improved bag for sweetmeats and confectionery, in which either the upper or lower portion is composed of a woven fabric fastened by glue to the paper portion. When the top part is of woven fabric it may be closed by using strings to draw the edges together. (17,231, 1901.)

Aluminium Alloy.—A. Manhardt, Vienna, produces from the following combination an alloy of aluminium which is bright, silver-white, does not tarnish, is easily worked, and is not brittle:—

Aluminium	...	...	...	100
Tin	...	...	...	12.05
Antimony	...	...	...	0.20
Phosphorus	...	...	...	0.09
Copper	...	...	...	7.50
Magnesium	...	...	...	0.06
Bicarbonate of soda	...	...	...	0.06
Sulphur	...	...	...	0.04

(19,403, 1901.)

A Family Pill.—Elizabeth Birch, trained nurse, and Eustace Fordyce Birch, chemist's apprentice, 51 Barrington Road, Crouch End, N., are joint patentees of a pill for human use of the following composition:—

Dried sulphate of iron	...	15 gr.
Powdered capsicum	...	20 gr.
Extract of Barbadoes aloes	...	38 gr.

Divide into forty pills, and coat with French chalk and gum.

The pill gives tone to the stomach, and "whilst acting as a tonic and mild aperient, its effects are non-irritating, and it is particularly recommended in cases of indigestion and for the cure of flatulence, constipation, and female pelvic troubles." (17,474, 1901.)

Animal-food—J. G. A. Koofmans, Amsterdam, makes an improved food for animals by mixing molasses, 70 parts, with ground maize, cobs, or stalks, 30 parts. (16,802, 1901.)

Soldering Aluminium.—C. P. Sørensen, Copenhagen, patents a process of soldering aluminium, which consists principally in the thorough cleansing of the aluminium first. The parts to be soldered are heated up to about 300° C. over a fire, which produces a strong oxidation of the metal. The oxidation is removed by treating with a concentrated alkaline lye, after which the metal is clean-washed with water; soldering can now be carried on without any flux. Good results are obtained by using a brazing-alloy of zinc and brass or zinc and tin. (16,864, 1901.)

Artificial Marble.—Otto Herwig, and E. Liebang, Dörnfeld, Germany, patent an artificial marble made of

Magnesite	...	16 parts
Magnesium chloride	...	17 parts
Flint, or its equivalent	...	45 parts
Kaolin, or its equivalent	...	5 parts
Water	...	17 parts

(166,40, 1901.)

Starching-composition.—M. Cabidos, and J. M. Abram, Toulouse, make a patented starching-composition for laundresses' use, as follows:—

Rice-starch	...	100 parts
Borax	...	12½ parts
White-fat soap	...	7 parts

(16,148, 1901.)

Coating Compound.—A. Wolf, Paris, has obtained protection for a composition for coating statuary and stone made of stearine and resin of each 1 kilo., bitumen 0.20 gramme, benzoin (preferably from Sumatra) 0.50 gramme, creosote (preferably from beech) 0.05 gramme. The articles are dipped in the melted compound or otherwise coated with it. (15,204, 1901.)

Shaving-brushes.—B. Hesselting, Krefeld, Germany, makes inexpensive shaving-brushes so that a brush can be thrown away after once using. Fibre is used, the lower part being prepared by dipping in soap solution, so that lathering can be conducted by the use of water only. The upper ends of the fibre are bound together and used in a holder. (14,409, 1901.)

Artificial Wood.—E. Helbing, Wandsbek, near Hamburg, proposes to make artificial wood by the following process:—Turf or peat is washed and freed from acids, and to 100 parts of the moist are added 4 to 10 parts of hydrate of lime and 30 to 50 parts of a combination of aluminium, such as sulphate of alumina. The mixture is pressed whilst in a wet condition and hardened in the open air. (13,136, 1901.)

C. & D. "Diary" Competition.

THE B section of our annual DIARY competition has been as laborious as ever to adjudicate upon. We deal in the present article with the home cards only. The questions which our subscribers, their assistants or families, had to answer were:—

1. Which is the most interesting advertisement in the DIARY?
2. Which DIARY advertisement should be most helpful during the year?
3. Indicate the best illustrated design amongst the DIARY advertisements?
4. Name the speciality (of any kind) advertised in the DIARY which you sell most of?
5. What is there not advertised in the DIARY that should be?
6. Which proprietary article would you like to own?

We have so frequently referred to the work of adjudication that we need only say now that the scrutiny of the cards containing the replies, each one being carefully examined and recorded, occupied the better part of three days. After all were examined, and the votes counted, it was found that

THE MOST INTERESTING ADVERTISEMENT

is contained in pages 25 to 35, which tells the story of Pears' soap. The vote for this is 200 ahead of the second of the following:—

Pears' soap (pages 25-35)	F. Schutze & Co (page 559)
Burroughs Wellcome & Co. (pages 229-236)	J. Hart & Son (page 44)
Daisy (Limited) (pages 151-157)	Hearon, Squire & Francis (Limited) (page 293)
Allen & Hanburys (Limited) (pages 169-183)	W. Butcher & Sons (page 97) &c.

Scarcely less decisive is the vote on the

MOST HELPFUL ADVERTISEMENT,

but in this instance opinion is much more divided. By a large majority the series of Messrs. Burroughs Wellcome & Co. is given first place. Then come Messrs. Allen & Hanburys (Limited), Daisy (Limited), Standard Tablet Company (page 305), Pears' (Limited), Camwal (Limited) (page vi), W. Toogood (page 579), W. Butcher & Sons, Philip Josephs & Son (pages 126, 127). Many voters pay us the compliment of saying they find the "Buyer's Guide" the most helpful; and another expressed the opinion that "C. & D. hooks to buy—if bought" are most helpful.

The position held for several years by Messrs. Stevenson & Howell (Limited) (pages 8 and 9) for the

BEST ILLUSTRATED DESIGN

has again been kept by them, but this year they have had to cope with much severer competition. By barely a fifty majority over Pears they have retained premier position. The first eight are thus placed:—

Stevenson & Howell (Limited)	Van Oppen, Ross & Co. (page 518)
Burroughs Wellcome & Co. (page 231)	Hearon, Squire & Francis (Limited)
Cadbury Brothers (page 483)	J. H. Haywood (page 592)
	C. P. Goerz (page 95)

The fourth question was not exactly new, and it has served to elicit an opinion that the

BEST-SELLING SPECIALITY

is Beecham's pills. This was a toughly contested question, but Beecham beat Daisy by exactly 100. The Burroughs-Wellcome specialities take third place; then come Pears' soap, Vinolia preparations, Brand's essence of beef, Plasmon, Vaseline, "Allenburys" foods, Winslow's syrup, Warner's pills, Woodward's gripe-water, Camwal waters, Apenta, Idris waters, and many others.

By far the most interesting question, and, moreover, the one which produced the greatest diversity of opinion, was the fifth question about

ARTICLES WHICH SHOULD BE ADVERTISED

in the DIARY, the competitors considering that Bovril is the most flagrant omission. The list of articles which our

subscribers miss, and wish to refer to in THE CHEMISTS AND DRUGGISTS' DIARY, include:—

Bovril	Label-cabinets
Bile-beans	Ogden's cigarettes
Seigel's syrup	Tibble's Vi cocoa
Elliman's embrocation	Dent's toothache-gum
Oxbridge's lung-tonic	Sparklets
Kodak goods	Keating's powder
Erasmic specialities	Grossmith's perfumes
Scott's emulsion	Eczema-balm
Pharmaceutical Society's School	William's shaving-soap
Meilin's food	Fulleylove's embrocation
Kutnow's powder	Phonographs
Maypole soap	Tyler & England's photo-apparatus
Rowntree's cocoa	Skuse's tablets and mixture
Tateho	Eade's pills
Frog in the throat	Dinneford's fluid magnesia
Williams's pink pills	S. & M.'s peptonised milk chocolate
Carter's pills	Hood's sarsaparilla
Phosferine	Parke's furniture-cream
Dodd's kidney-pills	Holdroyd's gravel pills
Horlick's malted milk	Brush and sponge powders
Koko	Clarke's blood-mixture
Angier's emulsion	Glendenning's beef-and malt wine
Kaputine powders	Writing-inks
Mazawattee cocoa	Clare & Hunt's specialities
Scott's pills	Price's glycerine
Hudson's dry soap	Oxo
Steedman's powders	Fetchner's "Lunkura"
Frame Food jelly	Electric bells
Armour's preparations	Optical illusions and toys
Hinksman's asthma-cure	Morley's Malvaline
Paris whitening	Ordish's Mend-all cement
Sugar for syrups	Antexema
Californian syrup of figs	Imperial Tobacco Company's products
Peck's asthma-cure	Insurance (fire, life, burglary, &c.)
Dylissia goods	
Timm's Mira-cura	
Atkins's diuretic balls	
Guttapercha bottles	
Guinness's invalid stout	

Many competitors flatter the Publisher by saying the DIARY is perfect; there is "nothing" to be added, but several would like to see the C. & D. publications more prominently displayed. Others ask photographic goods to be advertised better, and there appears to be considerable demand for "bona fide makers of photographic accessories." Several would like to see P.A.T.A. matters displayed in the DIARY advertisement pages. One gentleman hankers after "Ping-Pong," while another would like to see "a portrait of the Editor." Two candidates yearn for an advertiser to guarantee them "Distilled water B.P. and spt. eth. nit., always sent out 7 vols." Yet another wishes to see "something with a larger profit and a bigger turnover," and there is a pathetic desire on the part of one competitor to learn "the way to prevent being swindled." There are likewise in the answers food for mathematical reflection and scope for the exercise of ingenuity in the desire put forward by someone for "a concise little work showing the small retailer how to take stock, work out a profit-and-loss account, and strike a balance that will show him his exact financial position."

It was to be expected (although we did not think of it) that, seeing Beecham is given top place as the "best seller," his proprietary would be considered

THE MOST DESIRABLE TO OWN.

In the replies to question 6 "Beecham's Pills" comes therefore well out ahead of the others, but there are many who would like to own Pears' soap, Daisy powders, B. W. & Co.'s business, Kepler's malt, Vinolia, 4,711 Eau-de-Cologne, Cadbury's cocoa, and so on. One competitor, however, professes a desire to own "none" of the proprietaries advertised.

AWARDS.

An unprecedented number of competitors (5) have this year answered the six questions as the majorities in each case have done. To each of the following gentlemen we therefore award one guinea:—

- Mr. H. A. WILKINSON, 69 Bridge Street, Worksop.
Mr. CHARLES MCCANN, 4 Chief Street, Belfast.
Mr. J. A. SYMONDS, 16 Upper Brook Street, Ipswich.

Mr. A. DAVIDSON, c/o Mr. J. G. Nicholson, 7 Hanover Street, Edinburgh.

Mr. J. W. COWAP, Over-Winsford, Cheshire.

We wished to give five guineas for a six-correct card in Section B, and as five gentlemen have come up to that standard we divide the sum between them. Cheques will be sent to them forthwith. We reserve a larger portion of the ten guineas than usual, because the response in the A section and the large amount of useful hints to be disposed of deserve fuller recognition.

Hints and Verses.

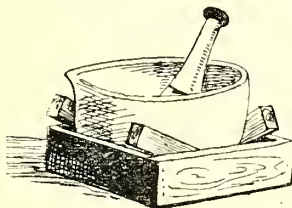
Contributed on C. & D. Diary Coupon Postcard A by Subscribers or their Employés.

SHOP HINT.—Dress your window tastefully and attractively, and do not forget the one essential point to sell from it is to price everything in plain figures.—A. S. HIGGS (Kingston).

P erhaps the most inviting ad.,
E ngenders thoughts of Godliness;
A ltho' most bold the "Little" lad—
R emembers "The Cult of Cleanliness."
S ee then, the baby in the tub;
S ee, next, our old friend "Bubbles";
O r "Grandma," who believes in "rub,"
A nd Furniss's man, of bi-ennial scrub,
P ear's Soap should end all their troubles.

—A. E. WARDEN (15 Hawksdale Road, Waverley Park, S.W.).

SHOP HINT.—I find that when a very stiff ointment has to be mixed in a mortar it is very difficult to work the pestle round unless a firm grip is kept on the mortar, which keeps slipping on the counter. To obviate this, take a small wooden box (strong), about 4 inches square, and 2 or 3 inches high, screw down to the counter at the four corners, place the mortar in this and tightly wedge with pieces of wood. I find this an excellent contrivance, and have thought about getting a smarter one made in iron, &c., and having it patented.—WILLIAM LISTER (Ambleside).



SHOP HINT.—Any chemist—who is built for it—can easily make more money extracting teeth with or without N_2O (gas) and fitting "artificial" than he can out of any other department of his business, and there is no necessity to be a dentist to do all this, or style oneself such.—ARTHUR OGLESBY (Barnesley).

Of all the patents which I stock
(And this is true I'm telling),
For sales as steady as a rock
Pil. Beecham is excelling.

—"MARMION" (Hawick, N.B.).

SHOP HINT.—Hang in a conspicuous position in your pharmacy a copy of the "Sale of Poisons" schedule as presented with this year's C. & D. DIARY.—G. E. GUEST (Pontefract).

PILL-MACHINE FOR LOZENGE-MAKING.—Most elegant small lozenges of cushion shape may be prepared by piping the mass as for pills, and cutting by pressure without rolling. The following is the formula used in making one dozen lozenges for a doctor:—

Cocain. hyd. ...	...	...	gr. j.
Sacch. lactis ...	...	...	gr. vj.
Sacchari ...	...	...	gr. xlviii.
Pulv. gum. acac. ...	...	...	gr. vj.
Liq. carmini et aq. rose a.	...	...	q.s.

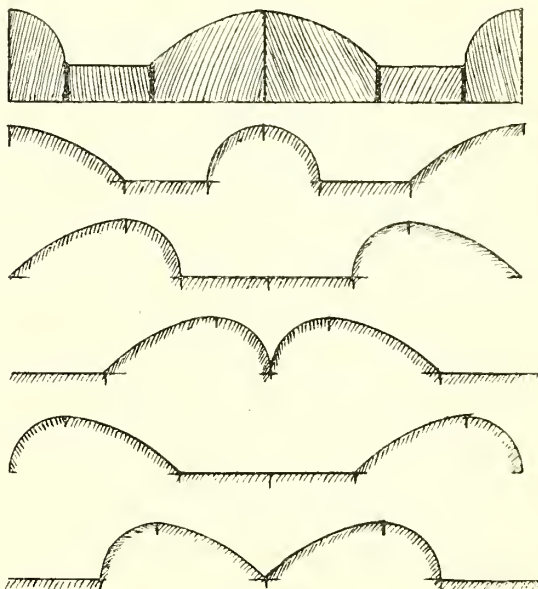
Fr. troch. xij. ut supra.

He was delighted.—J. E. ALLENBY (Helmsley, R.S.O.).

SHOP HINT.—Price the things in the window.—J. N. WALKER (Staple Hill).

DESIGN FOR WINDOW-SHELVING OR COUNTER-STANDS.

It affords the advantage of a perpetual change of outline, enhancing novelty of display, and saving 50 per cent. time in dressing either of above. Made in six pieces. The top



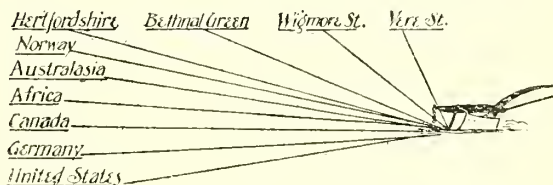
sketch shows the ground plan, and those below it possible combinations.—A. PEREIRA (140 Hornsey Road).

Suggested invitation for a well-known firm.

Come Burro'(w) in the Snow Hill,
Nor shall the same prove void:
You'll find a mighty Wellcome
In a very small tabloid.

—GEORGE MURDOCH (Cricklewood, N.W.).

Page 169.



A precedent to the "Lonely Furrow," and what became of it. Read the C. & D. for up-to-date hints applicable to extend business.—W. E. POWELL (19 Laitwood Road, S.W.).

In looking through the DIARY in a casual sort of mood I notice a good facsimile of "Allenburys" Food. They put it up in tins, in three quite different stages, The first, the second, and the third, for kids of different ages. There's "Allenburys" malt-extract (prepared *in vacuo*), "It keeps in any climate"—at least, they tell you so. And "Allenburys" toilet-soaps, of different shape and odour, There's one "non-alkaline honey soap, containing no free soda."

—T. C. JONES (Medical Hall, Connah's Quay, Flintshire).

SHOP HINT.—In packing specialties it is best to paste the edge of the paper instead of folding, as is usually done. This makes a neater package, looks more workmanlike, and saves paper.—C. A. COLES (c/o Mr. S. J. Coles, 25 High Street, Halstead).

Notes on Novelties and Improvements.

"TATCHO."

GEO. R. SIMS' HAIR-RESTORER COMPANY, 81 Great Queen Street, London, W.C., insert in this issue an effective advertisement respecting their special offer, about which a chemist says: "Repeat my last order. I disposed of three gross of the 1s. 10d. size 'Tatcho' last week."

ELEGANT PHARMACY

is a title which is used with a considerable amount of appropriateness on the labels of a series of pills and capsules which are submitted for our inspection by the Wand Manufacturing Company, Leicester. The pills are gelatin or silver coated, and either round or oval, whilst the capsules are of the soft, easily-soluble variety, and completely filled with the medicament. The labels of the packages are examples of lithography which it would be difficult to excel.

GUY'S TONIC SHOWCARD.

THE manufacturers of Guy's Tonic have some new showcards ready. They measure 6 inches long by 4 inches wide, and consist of a brilliant metallic plaque 5½ inches by 3 inches, upon which the words "Guy's Tonic for Indigestion" and a figure of the packet are printed in a striking manner. The plaque is mounted on a round-cornered white card, and is as effective a thing of the kind as we have seen for a long time. Any chemist can get a few by writing to the manufacturers.

CELLULOID VACCINATION-SHIELD.

MESSRS. J. L. HATRICK & CO. (LIMITED), 82 Turnmill Street, E.C., are putting on the market a vaccination-shield made of celluloid in the shape of a soap-plate, but bent to conform to the shape of the arm. It is transparent, and is provided with ventilation-holes, as well as a piece of india-rubber adhesive plaster at each side, by which the shield is affixed to the arm. It is made in sizes suitable for adults or children, and, as it may be washed with boiling water, it can be kept in an aseptic condition.

PERFUME MATERIALS.

MESSRS. K. F. KRAMER & CO., 11 Rangoon Street, London, E.C., submit a copy of their price list of essential oils, compound perfumes, artificial and synthetic perfumes, &c. The firm who are sole agents for Messrs. Vimar & Monschein, Vallauris near Grasse, and the prices of their "Perfection" brand of essential oils are given. Artificial and synthetic perfumes are a speciality of the firm, and the more prominent of them include, heliotrope, jasmin, lilac, neroli, carnation, rose and violet. Messrs. Kramer do a wholesale business only, and samples and special quotations may be had on application. The firm have also published a neat pocket diary for the use of their customers.

CRYSTAL PALACE MARKING-INK.

THE proprietors of John Bond's Crystal Palace Marking-ink, 75 Southgate Road, N., do not rest upon their oars so far as the quality and sale of their products are concerned, in spite of the fact that the ink has been so many years before the trade. As we have previously noted, the ink has been so improved that it requires no heating, and it can be used with pen, stamp, type, or stencil. The new price-list which the firm have issued contains illustrations of the several forms in which it is put up, also particulars of the "Nota Bene" marking-ink, and wholesale prices and illustrations of a comprehensive series of indiarubber stamps made by them.

DIGESTIVE TABLETS.

MESSRS W. R. WARNER & CO., Philadelphia (British depôt, Messrs. F. Newbery & Sons, 27 and 28 Charterhouse Square, London, E.C.), have brought out a new digestive tablet of the following composition:—

Pepsin. sacch.	...	...	...	gr. 4
Pancreatin. pur.	...	...	...	gr. ½
Diasas.	...	...	...	gr. ½
Ac. lactic.	...	...	...	gr. ½
Ac. hydrochlor.	...	...	...	gr. ½
Pulv. aromat.	...	...	...	gr. ½

The tablets are chocolate coated, and put up in attractive style.

TINCT. AURANTII NOV.

MESSRS WRIGHT, LAYMAN & UMNEY (LIMITED), Southwark, S.E., now have ready tincture of orange made from this season's fresh peel. It is an exquisite tincture, both aroma and taste being as superior to the tincture made from the dried peel as Moët's champagne is to gooseberry-wine. The tincture accords with the pharmacopœial standard, and as Messrs. Wright, Layman & Umney (Limited) make hundreds of gallons of it at this season, uniformity is ensured. The firm, in addition to supplying the tincture, offer the fresh-cut peel for delivery on the day that it is cut. As this is the time for filling requirements in regard to these articles it would be well for those pharmacists whose stock is low to replenish promptly. Samples and quotations can be obtained on application.

PROTECTION AND FREE CARRIAGE.

MR JOHN MORGAN RICHARDS, of 45 Holborn Viaduct, E.C., who are agents in this country for the perfumes and soaps of Messrs. Colgate & Co., of New York, inform us that they are protecting the prices of these articles for the benefit of the retailer. In future the shilling size of Colgate's shaving-soap, (which costs 6s. 6d. per dozen, 5s. 6d. per dozen in gross quantities, and with each dozen of which six samples are presented gratis) will be fixed at a minimum retail-price of 10d. Other Colgate preparations will have their minimum prices fixed accordingly, and we think the retailer will have little reason to grumble at the margin of profit allowed him. As will be seen from our advertisement columns, Dr. Williams' pink pills and Carter's little liver pills will, after February 1, be sent carriage paid on the old terms as set forth in the price-lists.

COUNTER-SPECIALITIES.

MESSRS. MARION, JAMES & KER (LIMITED), Durham Grove Works, Morning Lane, Hackney, have a new illustrated price-list which they will send copies of to any of our subscribers. The company (whose business as specialty makers commenced with the Royal Court hair-dyes) have now branched into quite a number of lines that chemists handle, and we had the opportunity the other morning of inspecting a case full of these and may mention a few of them. With each dozen 1s.-size asthma relief-powder the company give a dozen trial packets each of which sells at 2d., and this will make the profit more than half of the selling-price. Lipsaline is a pretty balsamic lip-salve put up in pure tin boxes to retail at 6d. each. Tube preparations are a strong line with the company. Their perfumes are finished off with gold embossed labels, an endeavour being made to emulate the high-class style of French perfumery even in the 1s.-size perfumes. A water softener to retail at 6d. in tins is worth looking into, and Velvetta cream for the skin appears to us to be an attractive line for cold weather, while the long glass boxes for tooth-paste are a distinctly

novel feature. Dentifrices, hair-washes, lavender-water, rat-cheese, and many other every-day needs are put up and catalogued by Messrs. Marion, James & Ker (Limited), and as the directors have long personal experience of what goes on at the counter, as well as original ideas, they should be able to give the trade a point or two.

NEW PRICE-LISTS.

MESSRS. SOUTHALL BROTHERS & BARCLAY (LIMITED), Birmingham, send us a copy of the new edition of "Southall's Export Journal," which consists of price-lists of the seven sections of their wholesale pharmaceutical business. Spirituous medicinal preparations are priced in bond for export. We note also that about 120 varieties of Dutch medicines are supplied, prepared according to Dutch formulæ, and put up in the usual Dutch style. Southall's herbaria are well known to students, and many who used the cabinets will be pleased to hear that a collection of drugs illustrating the *materia medica* of the Indian and Colonial Addendum has been prepared. It is known as "Collection M," and contains fifty specimens. The surgical-dressings factories at Birmingham and Bromsgrove which have been built and acquired are in working order, placing this firm in an unique position as regards the execution of orders for surgical wools and lints. The perfumery price-list is separate; it contains on the outside a brilliant example of trichromatic photography and within prices and illustrations of various styles and kinds of perfumery.

ST. PAUL'S BRAND.

"If I had my way of it," said a pharmacist to us the other day, "I would dispense all ointments in nice wide-mouth bottles—the mouth as wide as the bottle, if I could get it." The very thing he wants is provided by Messrs. F. Newbery & Sons, Charterhouse Square, E.C., in their 2-oz. star bottom pomade-bottle with nickel lift-off lid. There are a few more St. Paul's and Charterhouse specialties to be noted in this issue, and which are displayed in the firm's showroom at present. The "Limpet" self-adhesive vaccination-pad is a piece of sterilised lint in the centre of a square of adhesive plaster with holes at the back. The child's pad retails at 2d. and the adult's at 3d. A lip-salve in metal case (2s. 6d. per doz.), white rose tablets (1d.), heliotrope shampoo-powder (2d.), and cold-cream (1d. illuminated tin boxes) are little lines notable for good compounding. The firm are now putting up a full series of culinary essences, the 6d. size being a good bargain to look at and in actuality, so is the Old London toilet-vinegar in "Rimmel" bottle, but distinctive label, the 1s. size costing 4s. 6d. per doz. In sundries (a growing department with the firm) there is a full range of aluminium dressing-combs, the teeth of which are round-finished so that they pass easily through the hair. The prices are low. There are also a useful pocket moustache-brush which folds into an imitation tortoise-shell lid (retails at 6d.) and a pair of tweezers with nail-file and ear-scoop—a most useful article in nickel finish (3s. per dozen).

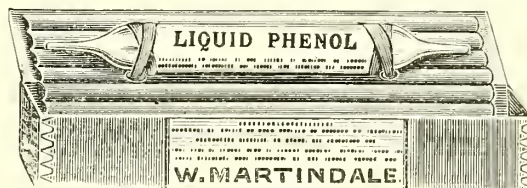
GLYCERIN AND HONEY JELLY.

THE popularity of Messrs. Osborne, Bauer & Cheeseman's glycerin and honey jelly has not been without its disadvantages to the makers. It is one of the most extensively imitated articles, but some of the German imitations are barefaced frauds. We have recently inspected a number of samples which had been forwarded to the firm from the Continent, and which in get-up were strikingly like the original, the label being yellow paper and the printing scarlet ink, while the wording of Messrs. Osborne, Bauer & Cheeseman's label was followed as faithfully as the German printer could make it. In one case the jelly was stated to

be prepared and sold by "Price & Co., perfumer to the Royal Family," at an address in Lombard Street, London, which had no connection whatever with any firm of Price that we know of. Another of the frauds was labelled "Prepared according. William Peers & Brothers, 1890. Third Avenue, S.W. Cor. 105th St., New York." It is evident from this that the jelly had never seen New York, but such is the nature of the competition which British manufacturers have to meet on the Continent. Messrs. Osborne, Bauer & Cheeseman are now endeavouring to ensure for the users of their jelly a reliable indication of its origin. They have registered the word "Glymiel" as a trade-mark, and in future the tubes of the jelly which are exported will bear on the label, printed in green ink across the original red, the words "Guarantee of genuineness. Glymiel-jelly. Registered trade-mark, Patent office. No. 236,270." It will be some time before the jelly for home sale is similarly marked, but our subscribers both at home and abroad will find full particulars in regard to the matter in the advertisement which the firm insert in this issue.

COLOURLESS CARBOLIC ACID.

THERE is scarcely a volume of *THE CHEMIST AND DRUGGIST* published which does not contain some theory as to coloration of liquid carbolic acid which takes place on exposure to light. It is generally attributed to a process of oxidation, but how to prevent it has hitherto been a mystery. Just as we go to press, however, we receive a sample of "liquefied phenol, colourless (Martindale)," from Mr. William Martindale, 10 New Cavendish Street, London, W., which we are



assured will not colour even in the presence of daylight and on long keeping. The tendency to coloration has been prevented by a process of refining and elimination of all traces of pyridine and quinoline bases. The "liquefied phenol" is prepared from pure phenol in detached crystals, melting at not lower than 40° C., and is brilliantly clear and colourless. The sample we have received has already been exposed to light for a month, and we shall keep it in the light for a further period, and report if it shows any sign of becoming coloured. The acid is sold at 1s. 6d. per lb., in Winchester quarts. Another form in which the acid is put up is in sealed tubes (as shown in the illustration) for surgeons' use. Each tube contains sufficient phenol to prepare a pint of 1-in-20 solution. We may conveniently note here that Mr. Martindale is now supplying medicated gelatin-capsules in bulk at the closest prices consistent with the guaranteed purity of the contents. Samples of the capsules which have been submitted to us show that they are well made and neatly boxed.

A CURIOUS CONCRETE ILLUSTRATION of commercial success is afforded by the fact that twenty-seven years ago, when Mr. Owbridge began to manufacture his lung-tonic at Hull, a 2-gal. bottle and a ½-gal. pan sufficed his need. At the present time his manufactory can turn out 26,000 bottles per day. Although the actual recipe is a secret, the manufacturer frankly announces that he used 70 tons of honey during the present season, and facetiously wonders what may be the number of his staff, including the bees.—*Illustrated London News*.

Scientific Progress.

A New Synthesis of Vanillin has just been announced (*Pharm. Central*, 1902, 33). It consists in adding to 1.2 kilos. of protocatechuic aldehyde dissolved in concentrated soda solution, 12.6 kilos. of dimethyl sulphate, and warming for a certain time. After acidification it is extracted with ether, and the ether distilled off, the residue being then extracted by chloroform, from which the vanillin is easily obtained and purified by recrystallisation.

Oil of Tomatoes.—Battaglia has examined the fixed oil obtained from ripe tomatoes, and finds it to differ but slightly in composition and properties from numerous other oils of the semi-drying class, with iodine values near 100. The following figures are given:—Sp. gr., 0.922; refractive index, 1.473; iodine value, 108.9; iodine value of the fatty acids, 112; insoluble fatty acids, 95.1 per cent.; Reichert value, 18.9. It contained 2.3 per cent. of lecithine, small quantities of cholesterol, myristicene, oleine, linoleine, and stearine.—(*Ann. Chim. Analyt.*, 1901, 434.)

Adulteration of Belladonna Leaves.—A communication from the University of Tomsk (*Pharmazett*, 1901, 1065) states that the leaves of belladonna put on the market by a very large firm have been found to contain the leaves of *Phytolacca decandra*. It is suggested that this may be accidental and due to careless gathering, but the author of the communication considers that care should be taken in watching for this substitution, as, although the leaves are very similar, their histological characters are sufficiently different to render the detection of the false leaves very easy.

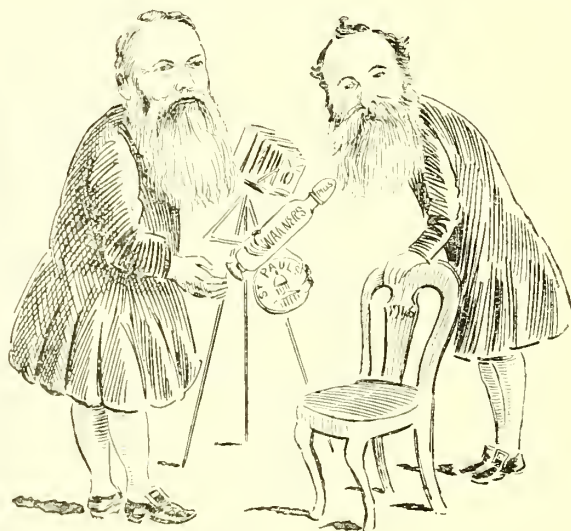
Adulterated Saffron.—Blarez (*Jour. de Pharmacie*, 1902, 14) gives an account of a number of adulterated samples of saffron which he has recently come across. No added filaments of a foreign nature were present in the samples, but their impurity was at once indicated by the high ash yielded. In every case the adulteration appeared to have been effected by the addition of a syrupy, hygroscopic, non-crystallisable solution of an organic acid with a mineral base. Boric acid was detected to a slight extent in the ash, but the author has been unable to identify the acid used. Sugar and citric and tartaric acid were all absent.

A New Casein Derivative.—In the process of destroying organic matter usually adopted in toxicological analysis for metals—namely, the action of strong hydrochloric acid and potassium chlorate—a small amount of a voluminous precipitate is always noticed. Panza (*Journal de Pharmacie*, 1902, 33) believed this to be of an albuminous nature. He has now confirmed this supposition by treating pure casein in the same manner, and obtained about 15 per cent. of a similar precipitate which forms a yellow powder, insoluble in water and neutral solvents, also in acids, but soluble in alkalis. It yields none of the characteristic reactions of albuminoids, but on analysis it was found to contain carbon, hydrogen, nitrogen, oxygen, sulphur, chlorine, and phosphorus. It appears to be a direct derivative of casein.

Methyl-heptenone.—The chemistry of this body, which occurs in lemongrass oil and other essential oils, is the subject of Wallach's latest researches. He has prepared from it by splitting off water from its oxime, a base isomeric with and resembling the alkaloid coniine, and a new base of closely allied constitution. He has also succeeded in preparing an isomeric methyl-heptenone. This results from treating ordinary methylheptenylamine with bromine and splitting off hydrobromic acid from the resulting compound. The new base $C_8H_{13}N$ results, and on treating this with nitrous acid the new ketone is formed. This new methyl-heptenone $C_8H_{14}O$ boils at 161–162°, and has a sp. gr. 0.842. Its refractive index is 1.43096. It forms normal semicarbazone and oxime, and behaves in all its reactions as a ketone closely allied to the already well-known compound.

Ibogaine.—Dybowski and Landrin have made an investigation of the plant known as Iboga, which appears to be *Tabernanthe Iboga*, Baillon, and is known as Aboua by the Pahouins, who use it as a stimulant and claim it to have an extraordinary power of averting fatigue and of warding off the desire of sleep. Baillon stated that the active principle of this plant resided in the bark, but it now appears that the whole of the wood and especially that of the root, contains appreciable quantities of an alkaloid which the discoverers have termed ibogaine. This compound forms a light amber coloured crystalline body melting at 132° C., and almost insoluble in water, but freely soluble in hot alcohol. Its specific rotation is $-48^\circ 32'$, and analyses agree with the formula $C_{22}H_{26}N_2O_2$, although the authors give no reason why they have not selected half these values. It forms an easily crystallisable hydrochloride, but the other salts could not be obtained in a crystalline condition.—(*Acad. de Sciences*, 133, 748.)

"C. & D." Nursery Rhymes.



A Charterhouse Dialogue.

Said Lionel to Le Blanc
With a *soupcou* of clan—
"Drugs have helped us since those days of Dr. Johnson's,
When the hospitable door
Of our worthy ancestor
Was open to all honest men with conscience."

Said Le Blanc to Lion-el—
"All our friends know us so well
That to thank them seems to me un-necess-airy;
For they know we've done our best
To forestall each one's request,
Be 't for perfume, pill, or tooth-brush badger hairy."

Said Lionel to Le Blanc—
"We give value to a franc
With the best, as did the goodly men before us,
For we strenuously have striven,
And an upright life have given,
To the 'sundry' causes, swelling chemists, chorus."

Said Le Blanc to Lion-el—
"True, there's naught we do not sell,
And our 'brands' they are perpetually in vogue, sir,
And no man from Roche to Ross,
Should be ever at a loss,
For he'll find his 'want' in Newbery's catalogue, sir."

Chemists' Calendars.

Dr. L. Zambelletti, The Farmacia Zambelletti, Milan, sends us one of his card calendars for 1902. It is beautifully got up in the style of early Italian illuminations, and has a half-monthly tear-off date pad. A small picture of the Farmacia Zambelletti with the cathedral in the distance occupies a central position on the card.

Mr. M. C. Sumners, pharmaceutical chemist, Heckington, combines his almanack with a cash price list of drugs and chemicals. An announcement is made on the inside of the cover that prescriptions are filled just as the doctor orders, the following points being particularised:—

1. All powerful drugs carefully checked.
2. No substituting one drug for another.
3. No altering of weights and measures.
4. Dispensed by men qualified by examination and members of the Pharmaceutical Society of Great Britain.

The Almanack sent out by Mr. F. W. Cannon, chemist and druggist, High Street, Baldock, is a small one adapted for carrying in the purse or vest-pocket. It is called the Bouquet Almanack, and is delicately perfumed.

Observations and Reflections.

By NRAYSER.

Parliament Meets

for the second time this century, and no one looks forward to its deliberations with any pleasure or hope. According to the programme, education is to be the principal burden of its discussions, but heavier taxation is likely to be the net result of its Session. It is hardly likely that any pharmacy legislation will be reached this year, but we are pretty sure to get to the preliminary contest which the report of the Departmental Committee on the sale of poisons must raise. From the "samples" quoted last week, and from what can be pieced together from floating bits of information, there is little doubt that the report will be to some extent opposed to the Pharmacy Act view of the sale of poisons. But this need not alarm us. The case that can be made out for the Pharmacy Act is at least as sound as that which Mr. Cross and Mr. Dobbs can manufacture against it, and an Act which has done good service for a generation will certainly not be lightly dismissed by representatives of the public who do not happen to be traders with an axe to grind. Even supposing Messrs. Cross and Dobbs secure the powerful backing of the Privy Council, and that department backs their Bill, this will give us a fine opening for introducing ours, and we shall at least be powerful enough to get both referred to a committee; then let the best Bill win.

Paracelsus's Opodeldoc.

Before Mr. Bell's letter appeared last week I had been looking up Paracelsus's original formula. I went to the British Museum Library and secured a desk in the neighbourhood of the P section of the catalogue. Under "Paracelsus" in the catalogue I found a note "see Bombastes von Hohenheim." From P to B in that catalogue means a considerable slice out of a quarter of a mile, but I trudged it, and in the B section I was rewarded with a list of quite a hundred books in English, Latin, German, Dutch, and French, which were either Bombastes' own or translations or selections from his writings. I chose two English and one Latin one, and in those three books alone discovered seven distinct formulas for "oppodeltoch." Indeed, the term seems to have been used by Paracelsus almost generically. In the Latin book ("Chirurgia Minor"), under "De cura Undimæ," there is an allusion to "nostro oppodeltoch"; this expression seems to indicate the real proprietary article. The formula prescribes realgar, lime, wax, colophony, yolk of egg, turpentine, amber, and aristolochia. Mr. Bell's No. 2 "Oppodeltoch Plaister" (the one with the orange skin powder) is prescribed for corns. Before using it you are to make the corn partly moulder away by applying oil of juniper, agaric, and oxgall. Then the plaster is to be used "for four or five weeks, or until a cure is effected," which, as Mr. Alpe would have held, is not a dutiable recommendation.

Turpentine was a Favourite Remedy

with Paracelsus, though he says it is not suitable in all cases. It will do more harm than good in the case of dry humours (or moist ones, I forget which). But what an advertisement-writer that man would have made! For instance, in describing turpentine he says it "hath a medicinal influence which God hath created in it. Its medicinal virtue is an invisible spirit imparted into its body as the spirit was breathed into man. In Turpentine there are 5 things: an Elementary body, the heavenly impressions of the Starrs, the heavenly Vulcan, the

complexion of the Chaos, and a created spirit." Anybody can add to this: "In bottles, 1s. 1½d. and 2s. 9d. each."

The Oxford English Dictionary

continues its stately progress through our language, and a part just published carries us forward from Lap to Leisurely. In this part 1,472 main words (as well as combinations and derivatives) are treated. It is interesting to note that of the 1,472 words 1,030 are in current use, 897 are described as obsolete, and 45 as alien, or not yet fully naturalised. In their preface the editors refer to a few words of particular interest dealt with, and first among these is

Lavender.

Etymologists have agreed to trace this word to *lavare* (to wash), through the Italian *lavanda* (washing), which gave *lavandula* and *lavendula* in medical Latin. The theory of this derivation was that the plant was used for perfuming baths, or else that it was placed among washed linen. Dr. Murray considers that this is not a likely sense-development. He finds that the earliest form of the term was "livendula," and suggests that the origin may have been from *livere* (to be livid or bluish), relating to the colour of the flower. It is not certain, he adds, that the name has not changed in its application. In early glosses *livendula* and *lavendula* are synonymous with *samsucus* and *amaracus*, which referred to *marjoram*; but old plant-names, he truly remarks, were often applied very loosely.

Laudanum

furnishes another interesting monograph, but I do not think Dr. Murray tells us anything new about that word. Paracelsus again figures as its originator, though Professor Skeat rather indignantly denies his claim. Laudanum, a stomachic cordial, made and named from gum labdanum, had been in medical use for centuries. Paracelsus's laudanum was quite a different preparation. He himself said it was made from gold leaf and pearls not perforated, but whether he took the name from *ladanum*, or whether he meant that it was a praiseworthy (*laudandum*) remedy, or whether he coined the word arbitrarily, does not appear. Certainly it was soon found that his remedy contained opium, and tinctures and wines made from that substance soon came into use as substitutes for his. No doubt they were declared to be just as good, and only half the price.

Other Words of Trade Interest

which occur in this part of the dictionary are *Ledger* and *Leech*. *Ledger*, formerly *lidge*, and corresponding with the Dutch *ligger*, is a derivative from the verb *lie*, and means a book that lies permanently in one place. A quotation from certain local chronicles dated 1538 shows the idea: Curates are enjoined to provide a Bible for a church "to be a lidger in that church for the parishioners to read on." *Leech*, the old name for a physician, is traced to the Gothic *lāka*, to heal, while *leech*, the blood-sucker, though "commonly regarded as a transferred use" of the human *leech*, seems to be connected with old English, *lyce*, middle English, *liche*, and this derivation suggests possibly distinct words.

The Liverpool Lecture

illustrated by experiments on live animals evidently gave pleasure to the pharmaceutical audience who attended it, and Mr. Wallbridge seems to suggest that it ought to have been not less pleasing to the rabbits which were performed on so lovingly. But Mr. Wallbridge misses the point. He helps to prove that the experiments were of the nature of a public entertainment, and therefore contrary to the statute. The most vigorous supporters of vivisection in the medical profession will agree with me that the physiological action of drugs is not an essential part of the pharmacist's training.

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Finest Pure LIQORICE JUICE	/10 * lb.	Finest ARROWROOT	1/ lb.

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Editorial Comments.

Apprenticeship.

THE remarkable series of articles which we print to-day from men of long experience in pharmacy are a timely contribution to a subject which has now been occupying pharmaceutical attention for some time. Our object in asking the co-operation of the writers to a consideration of this question was to present, if possible, a faithful reflection of the training of apprentices as it has been conducted during the past sixty years. We are conscious that the ideal conditions of training are not presented in the series. In days gone by Harvey of Leeds, Randall of Southampton and Schacht of Bristol, were types of men who besides being employers were preceptors in the true sense of the word, and taught their pupils upon a system, so that the young men

who were fortunate in having such employers acquired a thorough knowledge of pharmacy as an art and a business. The fact that we have not in the course of our inquiry got into touch with any man of the younger generation who has gone through such a training is fair evidence that it is almost a thing of the past. Conscientious and painstaking apprentice-masters do exist, but there are now very few indeed in pharmacy who for premiums ranging from 100% to 250% undertake to train apprentices in the style that Harvey, Randall, and Schacht were wont faithfully to carry out, supplementing shop-practice with private instruction in scientific methods and direction of book-studies. The apprenticeship of to-day is limited to shop-practice, and the schools of pharmacy and science have replaced the preceptorship of days gone by. It is as well to recognise that fact at the outset, also that the ideal apprenticeship appears not to have been so common as orators are inclined to preach. For there is not a single one of our contributors (and they are all men who have influenced pharmacy in some manner) who has had anything else than experience in shop-routine.

This does not appear to be peculiar either, for several eminent men, who have contributed much to pharmaceutical knowledge and to the progress of chemical science in this country, have given us, privately, particulars of their apprenticeship which show that they went through exactly the kind of neglect from their masters that is complained of as being rampant at the present time. Their parents had stiff premiums to pay, and they had stiff work to get through day by day. It seems conclusive, in short, that systematic training of apprentices does not account for the positions held by our pharmaceutical leaders, and that there has been no serious degeneration as regards treatment of apprentices. We do not see the slightest reason for saying that apprentices are now more than formerly employed as a means of cheap labour. There are few men in the country who take apprentices for the love of the thing, and the legal conditions now applicable make it certain that no man would employ an apprentice if he could afford a qualified assistant. The training is another question, but, as Edinburgh chemists said a few weeks ago, the best training for apprentices is plenty of hard work. The opportunity for training is not made for the apprentice, but by him, and it is the lad whose powers of observation are above the average, and who is desirous of learning the business well, who finds himself superior to any disadvantageous conditions in which he may find himself. That is really the moral to be deduced from the series of articles which we publish. Undoubtedly retail pharmacy is now different, and the improvement of methods and better commercial conditions have thrown into the hands of wholesalers a large amount of work which was previously done in retail pharmacies, so that apprentices are deprived of the opportunity of making large quantities of plasters and tinctures, rolling big pill-masses, and sweating over horse-balls. But there are compensating advantages, and youths of the old type who are willing to work and willing to learn have as good, if not better, chances now as any of our contributors had.

“Preparations.”

IF the Leeds police had intended in the prosecution of Taylor's Drug Company (Limited) for the sale of an arsenical pigment to provide the Poisons Committee with an argument for the revision of the poisons schedule they could not have succeeded better than they have done. The police proceeded under Section 17 of the Pharmacy Act substantially because emerald green was sold (1) without labelling it “Poison,” (2) without entering the sale in the poisons-book,

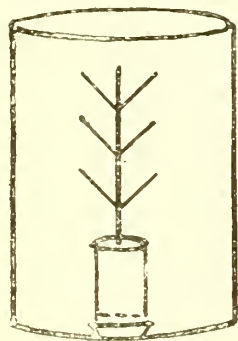
and (3) because it was sold to a person unknown to the seller. There appears to be a disposition on the part of the police throughout the country to take proceedings under Section 17 more freely than they have ever done. The Leeds case raises several points of considerable importance. In the first place it may be noted that the Arsenic Act does not clearly apply to such articles as emerald green. That Act says, “The word ‘arsenic’ shall include arsenious acid and the arsenites, arsenic acid and the arseniates, and *all other colourless preparations of arsenic.*” This specification of colourless preparations apparently implies that the arsenites and arseniates referred to are also colourless, and as emerald green (an aceto-arsenite of copper) is a coloured substance, it is doubtful if it is included in the Arsenic Act—at any rate the Leeds police preferred the Pharmacy Act. The second point is, Can aceto-arsenite of copper be considered a “preparation” of arsenic within the meaning of the Pharmacy Act? The schedule appended to the Act contains two kinds of entries—*e.g.*, “Arsenic and its *preparations*” and “Strychnine and all poisonous vegetable alkaloids and their *salts.*” By “preparations” the pharmaceutical authorities of the day meant those medicinal or other compounds in which the specific poison is a component in the sense, for example, that arsenic is a component of Fowler's solution. Aceto-arsenite of copper is not in this sense a “preparation” of arsenic, but a “salt,” just as morphine hydrochloride is a “salt” of the alkaloid, and morphine suppositories a “preparation” of the alkaloid.

The Leeds Magistrate declined to discuss what is a poison and what is not, a circumstance which is to be regretted, because if he had taken time to consider the matter he would have seen that it is not free from doubt. If “Preparations,” according to the Pharmacy Act, include salts, then preparations of morphine, which are in Part 2 of the schedule, include the salts of morphine—an absurd supposition. Salts of poisonous vegetable alkaloids are specifically named in the first part. It has also to be noted as a fact that aceto-arsenite of copper is no more arsenic or a preparation thereof than potassium ferro-cyanide is a metallic cyanide or a preparation of it. The same, of course, applies to arsenites and arsenates generally, as to aceto-arsenite of copper. Through custom and the specification in the Arsenic Act chemists and druggists have always treated the medicinal arsenites as poisons in the first part of the schedule, and we do not wish to say anything which would minimise this needful precaution, but it is doubtful if the legal necessity for it would stand argument in a High Court. All this goes to show, therefore, that the poisons-schedule is much in need of revision, and to this the Privy Council Committee is specially directing its attention.

Kino.

Six years ago, when kino was a scarce and dear article, that department of the Government of India which has the oversight of economic products undertook to inquire into the reasons for the scarcity. The results have been felt on the market by an abundant supply before the information has appeared, as it now does, in a monograph which brings the article on *Pterocarpus marsupium* in the “Dictionary of Economic Products” up to date. The revised monograph is by Mr. David Hooper, F.I.C., F.C.S., and is an excellent *résumé* of the botany, collection, and chemistry of kino. The commerce of the drug is incidentally treated; but as there is no explanation of the scarcity referred to we may, before dealing with the monograph, recall the fact that the scarcity commenced in 1889, and during the six years following only 121 cases, or about eighteen months' supply,

were received in London. The real explanation of this, as we afterwards ascertained, was that exporters in India, who bought at about 3*z*. per lb., had wilfully destroyed the bulk of the supply in order that the market-value should be increased. The price went up to over 1*s*. per oz. in Mincing Lane. This is not at all likely to occur again, as Mr. Hooper recalls the fact that the collection of kino is now either carried out by forest rangers under the supervision of district officers, or the right to tap the trees is put up to auction, together with that of collecting other forest produce, such as beeswax and honey. In any case, the collection is undertaken subject to the condition of its being done properly and without causing undue damage to the trees, as was the case some years ago when the hill tribesmen extracted the juice. In the monograph Mr. Hooper, after giving botanical and other references to the kino tree (which should, by the way, include, in addition to those given for the *C. & D.*, references to our issues of 1896, February 8, page 227, and March 28, page 460) states that the tree is most abundant in the North Malabar district of the Madras Presidency, where the juice is manufactured into the drug. The tree occurs abundantly elsewhere in the Presidency, but kino appears not to have been manufactured there. The manner of collecting and making kino in Anjurkandy, a village at the foot of the ghats of North Malabar and supposed to be the site of the factory where the first supply was prepared for the market early last century, is to make a longitudinal cut with an axe or with a knife through the bark of the tree down to the cambium, about 1½ feet long, and side cuts are made to lead into this. A bamboo tube is then fixed at the bottom of the main incision in order to catch the juice. The figure shows the cuts and



tube. When the flow of juice has ceased, the bamboo cups are taken down, removed to headquarters and emptied into a large cauldron, and the juice concentrated to the consistence of a thick extract, when it is exposed to the sun in thin layers in shallow vessels until it is dry enough to crumble to pieces. The kino is then weighed and packed in wooden boxes. The district forest officer of the North Malabar has adopted the plan of drying the juice in shallow trays arranged on tiers of shelves in the

shade, a suggestion made by a *C. & D.* contributor (February 26, 1898, page 355), as this product was proved by Messrs. Watson Will and Branch to be of the highest tannin value. The kino so made is dark ruby in colour, and is of exceptional purity. The yield of juice per tree is roughly 1½ lb., which is equivalent to ¾ lb. of the dried gum ready for medicinal purposes. Genuine Malabar kino will now, as already stated, be obtainable in unlimited supply through the Forest Department, and at a price that will preclude all competition of other articles of a similar nature. In North Malabar alone about 2,000 lbs. of the drug can be produced annually at the cost-price of 3*s*. to 4*s*. (3*z*. to 4*z*.) per lb. There is scarcely any demand for the article in India, except for the requisition of the Medical-store Departments of Calcutta, Madras, and Bombay. The drug collected in Malabar finds an outlet in the ports of Calicut and Tellicherry. That from North Malabar is shipped at Tellicherry, while that from South Malabar (including the Nilambur forests and the Wynaad), Coimbatore, and the Nilgiris is shipped at Calicut. The native state of Travancore exports its produce through Cochin and Alleppy, while gum collected in South Kanara

is despatched from Mangalore. Coasting steamers collect the products at all the Travancore and Malabar ports and convey them to Bombay. The trade is in the hands of European and native firms, and, as Cochin is the principal port of call, much of the drug is called "Cochin grain," although it is not actually shipped there (see the last-quoted article). Touching on the chemistry of kino, Mr. Hooper gives analyses of ten samples from different districts, his figures agreeing fairly well with those of Watson Will and Branch, except in regard to tannin, due to different methods having been used. The commerce of the drug is finally dealt with, and we may bring this quite up to date by stating that last year there was little demand for the article, and only 62 packages were delivered from the warehouse, being 37 less than the amount delivered in 1900. The importations were 141 packages, as against 85 in 1900. There is now a very heavy stock in London—viz., 118 packages, which is a considerable increase on previous years, as the following figures show:—

	1900	1899	1893	1897	1896
Packages	26	45	66	21	25

The moral of the monograph, if there be any, is that the Economic Product Department has done good service to Malabar, and has given speculative exporters a severe lesson. African kino was re-discovered in 1895, owing to the scarcity of the Indian kind. African kino was the original kind, and could be made to suit all purposes of Indian kino. It threatened for a time the existence of the latter, but there is no chance for it as long as the B.P. article can be put on the home market at 1*s*. per lb. Of course, very little is used in medicine, most of it being absorbed by the wine-trade.

Medicine-stamp Questions.

CHEMISTS and druggists have not yet heard the last of medicine-stamp troubles, and if we may judge from the problems which are submitted to us daily, they are anxious to be on the right side of the law. We have this week had another example of the "until relief is obtained" liability. Messrs. F. Newbery & Son have for several years sold "Bronchial throat-pastilles," which specified no malady on the label, but in the "Directions" the phrase "until relief is experienced" occurred. A customer was recently asked to pay a penalty, whereupon Messrs. Newbery wrote to the Board asking if the label made the tablets liable, at the same time remarking that "hoarseness and relaxed throat are not regarded as distempers, maladies, &c." The Board asked for the label in duplicate, and in due course returned one marked "liable to duty." In a further letter the Board stated that the words "until relief is experienced" incurred liability. We particularly note that the label marked "not liable to duty" bears the sentence "Repeat as occasion requires." We should like to emphasize this because it is a good equivalent for such expressions as "when the cough is troublesome" that are declared to be dutiable. There is a curious case mentioned in the *Anti-cutting Record* this month. A member of the Chemists' Defence Association has had the usual claim for 10*l*. made against him for selling unstamped pastilles with the following label:—

J. BLANK, DASHTOWN.
PURE GUM PASTILLES.
INFLUENZA.
DELIGHTFULLY SOOTHING
TO SINGERS AND PUBLIC SPEAKERS.
Must be kept in a cool place.

The Chemists' Defence Association solicitor does not advise acquiescence in the usual arrangement whereby the chemist pays the Inland Revenue a mitigated penalty instead of going into court. It is a label upon which, he thinks, a court should be asked to express an opinion, and correspondence is now passing between the Association's solicitor and the authorities, which will end either in a prosecution or a withdrawal of the claim. We hope the case will come into court and be fought to a finish; not that we think the Chemists' Defence Association will win (for the juxtaposition of "influenza" and "delightfully soothing" convey the idea of relief), but in order that the administration of the Act may be well submitted by both sides. While writing on this subject we should like to warn all dispensers that when such preparations as Fellows' syrup or other stamped proprietary articles are dispensed without admixture with water or other material, they must be stamped. The authorities are looking rather keenly after the matter at present.

INDUSTRIAL CANADA.

The November number of *Industrial Canada*, the organ of the Canadian Manufacturers' Association, contains a full report of the recent annual meeting at Toronto. This Association has now a membership of about nine hundred, an increase of 580 during the past year. The primary object of the organisation is to bring home to the British public the extent, resources, and products of Canada. One special department of its work is devoted to the extension of foreign trade, an effort being made to facilitate as much as possible the formation of business connections between outside firms and Canadian manufacturers. Assistance and information are offered free of charge.

DISCIPLINARY POWERS IN PHARMACY.

The complaint referred to under Scotch news, that the Pharmaceutical Society does not take action against chemists and druggists whose assistants have been convicted for infringement of the Pharmacy Act, is based on a misapprehension of the incidence of Section 26 of the Act. That section gives the Privy Council power to "direct the name of any person who is convicted of any offence against this Act, which in their opinion renders him unfit to be on the register under this Act to be erased from such register." Consequently it applies solely to the conviction of chemists and druggists themselves. It does not refer at all to the acts of unqualified employes, unless they come within Section 17—in fact, the offences referred to can only be the habitual disregard of the regulations for the keeping and selling of poisons. The Pharmaceutical Council has power to remove from the Society any member or student-associate who has been guilty of any act or conduct which is contrary to, or subversive of, the interests of the Society, and this power has been enforced on several occasions.

LAGOS POISONS ORDINANCE.

The Bill at present before the Lagos Legislative Council dealing with the sale of drugs and poisons is still vexing the British inhabitants of that malarial region. In our issues of August 17 and August 24, 1901 (pages 301 and 338 respectively), we alluded to the opposition which existed to the measure, and now a leading article in the *Lagos Weekly Record* is devoted to its condemnation. The *Record* argues that the ordinance is unnecessary, and will retard the efforts of the local Government to popularise European medicines. The ordinance would prohibit anyone, no matter what his experience or qualification, from dispensing or selling drugs except on the prescription of a medical man. This is pre-

supposing a system which does not exist locally, says the *Record*, medical practitioners, as a rule, compounding and dispensing their own medicines. In the absence of this system it will be impossible, according to the *Record*, for anyone to comply with the provisions of the proposed ordinance, which require each candidate for licence to swear either that he has kept open shop for the compounding of the prescriptions of a qualified medical practitioner for three years preceding the passing of the ordinance, or to produce a certificate signed by a duly qualified medical practitioner to the effect that he has compounded his prescriptions for that period. We think the difficulties are perhaps slightly exaggerated in this connection, but another objection put forward by the *Record* appears to have a sounder basis. It was thought that the ordinance would be framed so as to exempt altogether practising druggists of long standing from its provisions. This, the *Record* states, is not the intention of the framers, and the exception only relates to persons who have acquired proficiency within three years preceding the passing of the Act. If that be so, and we can hardly think it is, the promoters of the ordinance will have, we fear, considerable difficulty in obtaining its enactment.

THE SALE OF POISONS.

Mr. Algernon Warren has contributed to the *Bristol Western Press* a column article on the suggested reform in the sale of poisons. He narrates the history of the poison law, and the conditions applicable to sellers of poisons; then proceeds to speak of the Poisons Committee and Mr. Dobbs's Bill, refuting some of the allegations against chemists made by the promoter of that measure. Referring to the principle of Mr. Dobbs's Bill he says:—

The element of safety which by its absence should poisons and poisonous compounds be freely vended over the counter of the general dealer who has had no examination to pass touching their nature and properties. Sealed packages are capable of being perforated, and the contents may be withdrawn for other purposes than those for which they are destined, so this proposed stipulation is inadequate. If, too, a poison be obtained from a qualified pharmacist and misused, he, on being appealed to, has at his fingers' ends a knowledge of the best antidotes. But the seedsman or ironmonger would in nine cases out of ten be helpless to assist, if called upon to counteract the deadly effect of a poison purchased ostensibly for agricultural or horticultural purposes, but misapplied.

Mr. Warren goes on to say that the position of the chemist and druggist is not one of roses. At a cost of close and assiduous brainwork he has to spend years in acquiring the knowledge requisite for the passing of the examination. He must exercise vigilance daily. Unlike most other traders he is forced to stock things for sale which are indispensable to his calling, and which, nevertheless, he may not sell as he likes or thinks proper, but must vend strictly in accordance with stringent legal enactments, and if he do otherwise he may be brought before a magistrate on a charge of manslaughter. His mental strain is great, and a mistake on his part may lead to fatal consequences. The days of uniform large profits on his small turnover are gone from him for ever, and if his chance of a livelihood be diminished by a measure calculated to endanger the safety of the public for the convenience of a minority, there is every reason for anticipating that some of those who now advocate it will live to regret that they ever did so.

A MANGANESE TRUST.—After negotiations extending over six months a trust has been formed to consolidate the output of manganese in the Caucasus. It will include 264 mines, whose total output is about 400,000 tons per annum. The headquarters of the trust are to be in Berlin and the capital is three million marks. The syndicate is formed for a term of ten years, and naturally they will have considerable control over prices.

Festivities.

SMOKING IN BAYSWATER.

The members of the Western Chemists' Association had a smoking-concert at the Westbourne Restaurant, Craven Road, W., on January 22, with their President (Mr. W. F. Gulliver) in the chair. There was a good attendance, and excellent music was discoursed by Messrs. Henry Prenton, Chas. Gardner, H. H. Heap, Ambrose Skinner, and Alf. Wood. The banjo-manipulations of Mr. Wood (who holds the position of banjoist to Princess Louise) were much appreciated; while Mr. Skinner's humorsities were keenly relished. Mr. Prenton developed unexpected traits in "Sandy McGlusky."

WHOLESALE DINE.

The annual dinner and smoking-concert of Messrs. Baiss Brothers & Stevenson (Limited) was held at the City Arms, St. Mary Axe, E.C., on January 17. Mr. Arnold Baiss presided, and was supported by his co-directors, Mr. Sydney Baiss and Mr. H. E. Stevenson. About sixty were present, including Messrs. W. C. Allen, H. C. Bridge, J. T. Clark, F. Davis, Samuel Lambert, G. Roe, R. C. Treatt, S. C. Welch, and others. After the toast of "The King" had been given from the chair, Mr. John Lloyd, who was in the vice-chair, proposed "The Firm," to which the Chairman responded, and Mr. Allen replied for "The Visitors" in a vigorous speech. An excellent musical programme was provided under the direction of Mr. R. Tonking, and Messrs. H. E. Fifield and E. Wells acted as stewards. Altogether a very pleasant and harmonious evening was spent, the speeches amply testifying to the good relations existing between the firm and its employés.

CARDIFF ASSISTANTS' ASSOCIATION.

The annual reunion of this Association was held on January 15 at the Park Hotel, Mr. Albert Hagon, President of the Cardiff Pharmaceutical Association, occupying the chair. There was a fairly good attendance of members and their friends, and an excellent programme had been arranged, which was contributed to by Messrs. Keast, Hutchens, Dave McNeil, J. Williams, and the Cardiff Mandoline, Banjo, and Guitar Orchestra, conducted by Mr. Walter Norrish. Towards the close of the concert the Chairman proposed the toast of "The Cardiff Chemists' Assistants' Association," coupling with it the name of the President (Mr. A. B. Sparrow). The Chairman urged the assistants to combine to improve the hours of labour, and suggested the formation of cricket and athletic clubs. He also spoke of the educational movement which was on foot with regard to the establishment of pharmacy classes at the University College, and read a letter from Principal Griffiths in which he said that, although there were difficulties in the way, he did not think they were insurmountable, and he would do his utmost to establish a satisfactory pharmacy class at the College. Mr. A. B. Sparrow responded on behalf of the Association.

SCOTCH AT HOME.

The Glasgow Pharmaceutical Association gave an "At Home" in the Cockburn Hotel on the evening of January 16. The company, which consisted of about 40 couples, and a few stray but not disconsolate singles, included Messrs. Peter Boa, J. G. Sclater and Beaumont (Edinburgh), Messrs. W. L. Currie, T. Maben, T. Dunlop, J. Anderson Russell, D. Watson, Sutherland and Robb (Frazier & Green), Walker (Glasgow Apothecaries Company), J. L. Hatrick, T. Taylor, W. Dykes (Lorimer & Moyes), J. Lothian, T. S. Barrie, J. P. Gilmour and R. Brodie. Mr. W. L. Currie opened the proceedings by bidding all welcome, and expressing the hope that joy might be unconfined. Dancing began at 9 o'clock with a polka, and was carried on with zest until 1 A.M., when Mr. Boa proposed a vote of thanks to the organising Committee, and was acclaimed for describing the function as an unqualified success. In the brief intervals between the dances songs were given with artistic finish by Miss Currie, and Messrs. Dykes, Riddell, Maben and Anderson Russell; Mr. Robertson gave gramophone selections, and Mr. J. P. Gilmour recited. The dance music was played admirably by Mr. Ferries and his assistant, and

refreshments on a generous scale were smartly served at a buffet.

BLACKPOOL AND FYLDE DINE.

The Blackpool and Fylde Chemists' Association held their annual dinner at the Palatine Hotel on January 15, with Mr. H. P. Withers as Chairman. After dinner and the usual loyal toasts, the Vice-Chairman (Mr. T. Carter) in a short speech sent through the telephone, regretted his inability to be present, and wished the dinner every success.

THE PHARMACEUTICAL SOCIETY

was toasted by Mr. W. O. Richardson, to which Mr. Lord Gifford responded. After referring to the past history of the Society, he said that with others he was trying to bring it more in touch with the constituency. Education has always been an important part of the work of the Society, and if the work of the Society is to be successful it must always be so. Had not former Councils grimly stuck to their efforts in this direction they would not have had a leg to stand upon at the present day, although in his opinion they stultify themselves if they do not at the same time always insist on the protection intended.

THE FIRST AIM OF THE COUNCIL

is the benefit of the craft. They have a oneness of aim to that end, and he was therefore extremely hopeful of the future because their position is strong, and they only ask for what is quite reasonable. There is only one difficulty they have to face and fight against, and that is, when reduced to its lowest terms, unqualified practice. He feared they would never have penal powers to remedy this, but if they had they should not have the injustice they are having at the present day. The only remedy is the prevention of the unqualified person from practising. His (the speaker's) experience on the Council has greatly strengthened the conviction that unqualified ownership is incompatible with professional position. Every member of the Council can see this, and they are rapidly getting into a position which will bring this point into prominence. Many chemists do not face the difficulty that the fact of having a qualified man in a shop does not make qualified practice. He believed the Council recognised that, and if they understood the matter, public opinion ultimately would too.

Mr. Lord Gifford then read an extract from a daily paper calling for more stringent poison-regulations, which, he said, illustrated the "altered temper of the press," and finished by inviting those present who were not already members to join the Society.

Mr. Jao. Taylor proposed the toast "The Blackpool and Fylde Chemists' Association," and said he was sure that the Association took the best course in emphasising the social element, for, owing to man's social instincts, it was a most powerful force in the breaking-down of the isolation and sourness which too often resulted from competition. Knowing many Blackpool residents and more visitors, he knew that they, as a body of pharmacists, had won the high esteem of their fellow-citizens, and in that reputation they had a powerful lever for the defence of their interests when assailed, as it was possible they might be when the Poisons Committee had reported. Unfortunately chemists were not directly represented on the Poisons Committee, and it might soon be necessary to take instant action in the defence of the principle of the Act of 1868—viz., that the safety of the public required the sale of poisons to be in the hands of registered and qualified men. They knew that the monetary value of the trade in poisons was little to the individual, so it was not selfishness which dictated their policy. But they knew also the country was not so much better than it was in 1868 that the safeguards which the wisdom of Parliament then imposed could now be cast aside. Verbal mechanical regulations could never take the place or perform the service of a live commonsense pharmacist.

Mr. C. H. Turner (the Divisional Secretary) responded, mentioning that the local M.P. has pledged his support to the Pharmacy Bill and that the Technical Instruction Committee had provided a good laboratory and a competent instructor in chemistry.

Other toasts were gone through, the speeches being interspersed with musical sketches, to which Mr. L. Mayson and others contribute.

Medical Gleanings.

CUPROL IN GRANULAR OPTHALMIA.

DR. S. SNELL, in the *Lancet*, relates that he has recently substituted cuprol for copper sulphate in the treatment of granular ophthalmia. The application causes less discomfort than copper sulphate, and its use as an alternative to other remedies is distinctly encouraging.

CHLOROFORM-ANTIDOTE.

DR. T. G. BRODIE, at the Tnin Congress of Physiologists, in a paper on "A Method of Investigating the Effect of Drugs on the Heart," said he found that suprarenal extract increased the rate of the beat and largely augmented the work performed. Its effect was antidotal to chloroform, which markedly depressed the working-capacity of the organ. If suprarenal extract were administered before chloroform, the heart withstood much larger doses of the anæsthetic, while a heart greatly depressed by chloroform recovered completely when suprarenal-extract was introduced.

DIONINE IN DIAGNOSIS.

DIONINE, the hydrochloride of ethyl-morphine, when applied to the conjunctiva causes a burning pain, and soon the eye gets red, swollen and chemotic. This chemosis is much more marked in lymphatic and scrofulous people and still more in those affected with gout, heart and kidney diseases. It may thus be used as a mode of diagnosis for constitutional disorders. Dionine has also an important analgesic action in the deep seated pain of iritis and glaucoma. The pain of these diseases which can hardly be touched by cocaine readily yields to dionine.

THE USE OF CHINOSOL.

CERTAIN chemical peculiarities in using chinisol should be noted. It is precipitated by alkaline water and by soap, so that if it is used to disinfect hands or skin after washing with soap distilled water must first be used for rinsing the hands. Solutions should be kept in glass vessels, as chinisol acts on metal, although nickel-plated instruments are not attacked. The chief disadvantage of its general use is the readiness with which it is precipitated from solutions.—*Lancet*.

MERCUROL IN SYPHILIS.

DR. AYRES, New York, from a fourteen months' trial of mercuriol recommends it as the best form for administering mercury in syphilis. The patient is started on 1 gr. three times a day, the dose being increased after four days at the rate of 1 gr. every four days till there is slight salivation, slight looseness of the bowels or improvement in the patient. To control the diarrhoea 10 gr. of bismuth subnitrate is given three times a day. In a few cases potassium iodide 5 gr. daily is needed in addition to mercuriol. Mercuriol is always to be given in pill form—never in solution, because of its instability.

GLAND INUNCTION.

DR. B. ROHDEN claims that inunction with cod-liver oil emulsion is excellent for reducing tuberculous glands. The rubbing is done two or three times a day for a few weeks. The skin is first rubbed with brandy and then with water, finally using the emulsion in such quantity that 4 oz. is used in ten to twelve days. The preparation preferred contains 50 per cent. of cod-liver oil with balsam of Peru, lanoline, glycerin and an alkali, flavoured with cinnamon, lemon and thyme.

SENILE PRURITIS

DR. JOHN MACDONALD in the *British Medical Journal* mentions that he has found successful, when other remedies fail, $\frac{3}{i}$ doses of sodium phosphate in water three times a day after meals. The same remedy is good for urticaria and boils. Dr. G. Parker (Clifton) suggests that as the skin in these patients is often exceedingly dry, and somewhat atrophic, small doses of pilocarpine—say $\frac{1}{20}$ gr. two or three a day—may be found useful. As an external application a liniment containing menthol, salicylic acid, lanolin, and olive oil affords temporary ease.

TURPENTINE IN RINGWORM.

LEVEN recommends oil of turpentine in ringworm and pityriasis versicolor. In the latter disease the oil is rubbed in daily for five minutes. In ringworm pieces of linen soaked in the oil are applied night and morning. After six days the patches become inflamed and the epidermis exfoliates. The skin is afterwards treated with simple ointments.—*British Medical Journal*.

REMEDY FOR PILES.

Ext. echinacæ angust.	...	...	5j.
Ext. hamamelidis virg.	...	...	5j.
Aquæ destillatæ	...	...	5j.

M.

Sig.: Inject 2 fl. dr. after each stool.

—*Therapeutic Gazette*.

WAX-MODELLING.

DR. J. F. SCHOMBERG, in the *Medical Bulletin*, gives the following information on the making of wax models for clinical teaching and other purposes. The plaster of Paris used by dentists is recommended for the casts, and is prepared for use by sprinkling it in handfuls or through a sieve into a basin of water until the water will absorb no more plaster. After the plaster is submerged the mass is stirred until it acquires a creamy consistence, when it is poured upon the skin. Previously, however, the surface of the part to be modelled is rubbed with olive oil, or where hair is present with a stiff ointment, such as resin cerate. The eyelashes should be well greased with vaseline. The following is the wax composition employed for taking a cast of the plaster mould:—

White wax	...	...	...	1 part
Yellow wax	...	...	...	2 parts
Paraffin (about 54° C. melting-point)	...	...	...	1 part
Starch	...	...	...	2 parts
Talcum	...	...	...	3 parts

The wax and paraffin are melted together upon a water-bath, and the starch and talcum, previously mixed, are thoroughly stirred into the mass. The wax is now poured into the mould up to the brim, and then poured back again into the receptacle. It is important in this first pouring to bring the wax rapidly into contact with the entire surface of the mould, otherwise indelible furrows will be produced in the resulting model. The pourings are now repeated until the model has acquired a sufficient thickness (ordinarily from $\frac{1}{4}$ to $\frac{3}{8}$ inch). It is then allowed to cool, after which the plaster cast is broken piecemeal from the model.

STERILISING CATGUT.

MR. C. A. BALL, house surgeon at Sir Patrick Dan's Hospital, Dublin, describes in the *Lancet* a method of preparing sterilised catgut, which has been in use for the last eight months. The difficulty in using thick catgut has been to sterilise the inner layers, but the process given answers well on catgut up to No. 4 (Droncke), and moreover does not diminish the strength of the material:—

A glass reel is used, 1 inch in diameter and 3 inches in length, with a flange at each end, each flange being pierced with a hole to which the ends of the gut are tied. A reel of lignum vite or any wood that sinks in water answers the purpose equally well. The winding can easily be done with an ordinary bandage-roller by placing a perforated cork in each end of the reel. The knots joining two strands together must be very carefully tied, else they will slip when boiled, and such an accident destroys the whole reel of gut by allowing it to untwist. The reel is now placed in a 5-per-cent. solution of formalin, and left for about twenty-four hours; it is then thoroughly washed in cold water. It is next dropped into boiling water and left boiling for from five to ten minutes, according to the thickness of the gut. Lastly, it is placed in the following solution:—

Mercury perchloride	...	...	1 part
Boiled glycerin	...	...	250 parts
Methylated spirit	...	...	1,000 parts

The gut is now ready, and receives no handling after sterilisation until it is used. The glycerin and spirit dehydrate the gut, the former rendering it pliable. The mercury perchloride impregnates the gut, swollen by boiling, with an antiseptic, and hardens it sufficiently to prevent it twisting when moistened by the tissues during the process of stitching—a difficulty with gut dehydrated by alcohol alone.

Apprenticeship as it Was.

Several Well-known Pharmacists Recall the Experience of their Apprentice Days.

NOT only the apprentice but the art of training him is a fading pharmaceutical factor. It was on a basis somewhat of this nature that we ventured to solicit from several well-known pharmacists an account of their experience as apprentices. The object is to bring into relief the manners of the past through the contrast with the somewhat prosaic present.

We had hoped to obtain more evidence than we have of systematic training, which, we are frequently reminded, was the chief feature of the pharmaceutical apprenticeship of days gone by. Indeed, several very good friends to THE CHEMIST AND DRUGGIST have asked to be excused recording their experience, because they feel that they were not amongst the fortunate ones who were well drilled by historic masters in the art of pharmacy. They fetched and carried, "killed" mercury, powdered aloes, laboured late and early, but were never taught pharmacy during their apprenticeship. We feel that we have still to catch the man who has gone through the ideal apprenticeship.

Henry Deane, who was one of the best exponents of the craft that British pharmacy has known, once wrote for our columns an account of his apprenticeship, which we may be pardoned quoting, although it is lengthy, because it takes us back almost eighty years. When Henry Deane left school in 1821, at the age of 14, he had four years of "untraining," as he quaintly put it, but he lived in Stratford, and John Gibson, of Howard, Jewel & Gibson (now Howards & Sons), was a friend of his father's, and he allowed young Deane to have "the run of the laboratories." Thus he obtained "a predilection for manufacturing-chemistry pursuits." John Gibson encouraged him, and so—but Henry Deane's words will tell the rest.

At the age of 18 I was apprenticed, for three years, to a chemist and druggist at Reading, Joseph Fardon, who had served his time to my uncle Shillitoe, of Tottenham, and who afterwards lived three years with John Bell & Co., in Oxford Street. This well-known pharmacist was a kind, indulgent, considerate friend and master, and while with him I learned to powder alum, ginger, and nut-galls; to grind and mix paints; polish the shop scales, counter, and bottles; open and shut shop, and many other things now, unfortunately, considered *infra dignitatem* in this generation. I had to open shop, summer and winter, at 6 o'clock in the morning, a practice which I continued with my own hands for many years after I came to Clapham, without losing the respect and confidence of any one of my customers. To me activity was a necessity, and I rather liked these tasks than otherwise, and I saw no indignity in performing duties required by my master, which were in their nature not only honest, but calculated to improve me in the knowledge of my business. For while grinding Prussian blue, or powdering roots and seeds, I pondered over their physical constitution, and afterwards read up their natural history in my then incomparable book and best friend, Thomson's "Dispensatory." This habit of doing anything that was required of me was not only of immediate benefit to myself, but in after years probably rendered me more apt in teaching those placed under my care, and certainly gave me an idea of the nature and requirements of our trade in country places, such as London itself could not afford.

From that time my motto has been—as I believe it ever was in practice—"There is nothing beneath the dignity of a man that is not dishonourable." Not unfrequently have I had to carry a dozen or two of soda-water to a distance of one or two miles on a hot summer's day, and these occasions afforded opportunities for looking after plants. I shall never forget on one of these excursions finding a fine plant of henbane, a plant I had never seen before, but which I recognised at once from the description read in Thomson's "Dispensatory." I took it home and made some extract much to my own satisfaction, but my master would not have it used, it was so unlike the black stuff usually dispensed; mine was of that pleasant green colour now well appreciated.

In addition to the real love I had for my business, there was one strong inducement to stick unflinchingly to my duties, which was ever borne in mind. I knew I should have to get my living by an occupation deliberately chosen by myself, and paid for by my father, though with the humble fee he could but ill afford. Both

parents would probably grow old, and the day might come when it would be my duty and privilege to provide for their declining years. An amount of honest pride was also a strong stimulant to exertion in acquiring knowledge. When I first entered on my duties behind the counter I was a tall fellow 6 feet high, and could look over the heads of my master and his assistant. Consequently, many of the customers presumed I knew more in proportion to my size, and asked me questions about things of which I had never heard, and which made me blush in uttermost confusion. This state of ignorance was most distasteful, and I resolved to have an answer ready for the next inquiring customer. Thus I soon gained a reputation for more knowledge than I felt I deserved. My master's small library was soon exhausted, and my shilling a week pocket money and other small pecuniary presents were chiefly devoted to the purchase of such standard works, directly or indirectly relating to pharmacy, that my limited means would reach. At that time there was nothing in the English language published for the benefit of those following our particular business. This was very remarkable, seeing that the Fellows of the College of Physicians were entirely dependent on the chemists and druggists as dispensers of their prescriptions, and for their success in practice. However, in London and some large towns in the country, a few of the most intelligent chemists did the larger portion of the dispensing, to the exclusion of those who would not or did not take sufficient pains to acquire the right kind of knowledge, or who could not resist the temptation to use inferior or sophisticated drugs compounded according to formulae well known at that date, but now rapidly becoming obsolete.

At the conclusion of his apprenticeship Henry Deane had no difficulty in reaching that Mecca of English pharmacy—a position in the house of John Bell & Co.

Those days were little more than the beginning of the chemist and druggist or pharmacist era. There were few who so called themselves that were not by training apothecaries. Most of the druggists of the time were hucksters—honest men, doubtless, but without pretence to scientific knowledge. Men of Joseph Fardon's type were becoming more numerous, and pharmacy was differentiating rapidly towards the final crystallisation of 1811. We may, therefore, put down Henry Deane's experience as typical of his day. The first of those which follow covers almost the same period and makes a good contrast. We deal elsewhere with the subject as a whole.

An Octogenarian's Apprenticeship.

It was with feelings of great joy that in the year 1834 I signed an important document styled an indenture of apprenticeship binding me for a period of five years to serve "my master's interests, his secrets keep, and obey his lawful commands; to abstain from such unlawful games as cards and dice, nor to haunt ale-houses and taverns, or to contract marriage, or to form any immoral connexion," whilst the master on his part undertook to instruct me in the "art and mystery of his craft, to lodge and board me during the whole term of the agreement"—all particulars of which seemed very easy; but I soon found that the yoke I had undertaken to bear was not so light as anticipated. The sudden transition from the intense pleasures of boyhood and jovial companionships to downright hard work was rather galling to the spirit, and the sense of servitude less bearable than the discipline of the old Dominie with his ferule and powdered pow. The senior apprentice alone gave me a cordial welcome, but it soon became apparent that his gladness was of a selfish nature, for he contrived to relieve himself by shoving upon me the least agreeable occupations, such as opening and shutting shop, window-cleaning, polishing brass, scales, door-plate, trimming four argand bracket-lamps, &c. The shop was opened at 7 A.M. and not closed until 10 P.M. Then there was running errands to deliver goods and medicine, and I have sometimes been so exhausted as to fall asleep after hard work, been carried to bed, and on awaking in the morning wondered how I got

there. But this severe training did not break down an irrepressible spirit and buoyant temperament. A year after my senior left and was replaced by a successor who being strong, good-natured and willing, we got on very fairly together, made our little experiments together, went out in the early morning botanising in the marshes, and with much glee using leaping-poles over the marsh dykes. We also had an alliance with other 'prentice boys, hired a boat and were often in the open sea by sunrise, taking a header into the placid ocean. This physical training was beneficial, giving tone both to body and mind.

To return to business. It was the pride of our principal to have every drug and preparation genuine. At that time of day adulteration was shamefully carried on by the wholesalers. There was no such thing as an unsophisticated powder or extract, and in order to secure this desideratum he chose to prepare all tinctures, distillations, extracts, ointments, syrups, &c., himself, and it was no small satisfaction to find that such "honesty was the best policy." An instance may be mentioned to illustrate this. A preparation containing ext. papaveris was dispensed for a highly respectable old lady. The unexpected soporific effect caused her friends to inquire whether there had not been an error in compounding, as the patient had never experienced such a result from the medicine, which had always been dispensed at a first-class West-end establishment. The explanation that followed proving satisfactory led to greater confidence in the country chemist, and brought an accession of business.

The work of the laboratory progressed, and we had a good time in the open, gathering hyoscyamus, digitalis, belladonna, taraxacum, &c., often making a good bag. This, of course, entailed more work, but as the master was not above his trade all worked harmoniously, and with very simple apparatus turned out a lot of produce.

But of all the enjoyments of 'prentice life nothing equalled the harvest of elder-flowers for distillation and making ung. flor. sambuci. We had a good connection with the hospitable farmers, who gave permission to enter any enclosure and take as much as we required, even entertaining us with country fare and sending our sacks home into the bargain.

I remember on one occasion a sack of elder-flowers arrived rather late in the evening, and, being busy, we did not empty it into the 24-gal. still; the whole house was filled with the odour, rank and unpleasant. On opening the sack next morning a heated black mass presented itself; this was a caution. I may here allude to a narrow escape I had when on one of our forays. I had climbed an unusually large elder-tree, when I espied a fine branch suitable for a pop-gun, and began hacking it off with a sailor's jack-knife. Before I had got half-way through the main stem upon which I was astride broke, and down came boy and knife, which happily fell flat under me.

Shop again. We always had some object of interest designed to amuse customers, such as a glass retort and receiver in operation. How the country folk would wonder to see a dark-coloured fluid boiling in a glass vessel, and then re-appearing in another state "as clear as gin."

We had electrical apparatus—a rapidly-revolving magnet—which was "more than any fellah could understand." This arrangement was made profitable for "shocking" nervous subjects, who believed they were much benefited by the treatment. We had also a large and powerful battery, consisting of 36 jars, 25 oz. capacity, and with this in our spare moments we exploded gunpowder under water, burned gold-leaf, melted iron wire, and decomposed water, much to the delight of friends and acquaintances, and to our own advancement in scientific knowledge.

As for systematic training there was none. Phillips's "Translation of the London Pharmacopœia" and Gray's "Supplement" were the only authorities we had reference to; but the conviction that the mere trading in drugs was of inferior value compared with the literature and science of pharmacy was fully recognised and acted upon.

Would that such pursuits were more cultivated nowadays. Principals, assistants, and apprentices would find greater satisfaction in the investigation of facts in science than in scoring a great victory at football, where physical force is in the ascendant and there is no permanent satisfaction in recounting the glories of the field—not that athletic sports

should be discouraged, but these feats of strength should be subordinate to the more solid and resourceful engagements of minds.

That there is room for improvement in the training of pupils is an acknowledged fact. Professor Attfield demonstrated this years ago. But, still, young men are left by principals who are really responsible for the future of pharmacy, and who might ennoble the profession by devoting some attention to the interests of those who are destined to carry on the ever-expanding science which, from the remotest ages, has maintained its interest and paramount importance for the benefit of the human race.

Goodwyn Mumbray

G. T. Wilkinson Newsholme.

THE President of the Pharmaceutical Society of Great Britain does not owe his position in pharmacy to an ideal apprenticeship or the fostering care of influential pharmacists who early discerned his abilities and pushed him forward. His scoring has all been done off his own bat. Born in Settle, Yorkshire, in the early fifties of last

century, and the eldest son of "John Wilkinson Newsholme, Gentleman," as his indentures put it, he had a thoroughly sound education, especially in the classics, at the Giggleswick Grammar School, where Archdeacon Paley was educated. There were ideas of making young Newsholme a doctor, but the lad had formed in his own mind the determination that a pharmaceutical life was just the thing that would suit him. His uncle, Mr. Thomas Bateson, of Kendal, was a frequent




visitor at his father's house, and Mr. Bateson happens to be exactly the type of man to convey to a young relative the idea that "all is well." He had leisure, overflowing spirits, and a prosperous business. Against that the sole attraction of a medical career which there was to the observant nephew was the pleasure of getting up in the middle of the night, harnessing a horse, and driving ten miles or so to see a patient. That was a dream of bliss which long hovered over the lad but pharmacy was a sure thing, and his thoughts were always in it. So a friend told his father of a splendid chemist for training apprentices—Mr. Robert Fell, of Huddersfield, and Mr. Newsholme, sen., went to talk with Mr. Fell about the matter. This was just about the time the Pharmacy Bill was crystallising towards an Act of Parliament; but Mr. Fell was not a member of the Pharmaceutical Society, hence when the indentures were drawn up there was nothing out of the ordinary in them, and neither the apprentice nor his father knew anything about the Society's examination. The indentures set forth that Robert Fell would "during the term of five years teach, learn, and instruct George Thomas Wilkinson Newsholme the art, trade, or business of a chemist and druggist, and find and provide for him sufficient and enough of meat, drink, and lodgings during the whole of the said term, and also allow him a fortnight's holiday in each year of the said term at such time as shall be most convenient to the said Robert Fell."

The document, which looked so formidable to young Newsholme, and was, he thought, an assurance that pharmacy was all he conjured it to be, was not signed until May 18, 1863. The signatures are of interest now that the

youngest party to the contract signs many of those things that pharmaceutical aspirants most desire to possess:—

John Withiow Newsholme
George Thomas W. Newsholme
Rob. Fell



But this takes us away from the story, which, the reader will have gathered, is not told in Mr. Newsholme's own words. He was good enough to spare us half an hour at "the Square" one afternoon recently for a chat, and if this is not so interesting as his own talk, which it certainly is not, it couples well with the apprenticeship.

On February 7, 1868, George Newsholme became an inhabitant of Huddersfield, and he entered Mr. Fell's double-fronted shop with a keen interest in the mysteries that lie behind the crimson lights. There were doubts about the lad's living in a strange town, but none in his own mind. He had all pharmacy before him. He was the junior of two apprentices, and there was a porter to do the heavy work. The senior apprentice did not give him sulphur and chlorate of potash to rub together in a mortar, nor a pound or two of aloes to powder, immediately he donned the apron, but there were various little light-porter jobs to fill in his time until a parcel was ready for Mrs. Blank, and the senior apprentice was deputed to go out with the junior so as to show him where this customer and that lived, in case such an errand might arise again. Need we say that that happened often? Before the trial month ended the junior apprentice had written home to say that mechanical engineering would be more in his line. His father arranged for a visit to Bury, and the junior came back convinced that on the whole pharmacy was just as good. He resumed this routine, which commenced at 7 in the morning, when he left his master's house hugging the loaf that was destined for the coffee and bread-and-butter breakfast which he and the senior had on the premises at the shop. The shutters were down at 7.30. The apprentices were in the shop all day, having half an hour for dinner and the same for tea, until 7.30 P.M. and 10 on Saturdays. Mr. Newsholme, senior, had stipulated for one night per week for cricket, but this did not last long, as it interfered with business, which accounts, doubtless, for the absence of Mr. G. T. W. Newsholme's name from any of the Yorkshire elevens.

If the young apprentice was not taken in hand by his master and put through a systematic course of training to acquaint him with all the branches of pharmacy, he had the next best thing to that—plenty of hard work at everything that was done in the shop. It was a good country business—oils and paints were a speciality; British wines, too, were much dealt in; there was a good connection with medical men in supplying them with preparations; and most of the quacks in the neighbourhood went thither for their pills. On Saturday nights Huddersfield poured into the shop for supplies of hair-oil—used in enormous quantities—and the junior apprentice became an adept from the very first Saturday in serving this article. Most things were made on the premises—ointments, pills, tinctures, plasters, and so on, and the apprentices made them. They did not start with precise instructions or anything about the dignity of the craft or the importance of being accurate; nor were they bothered much with the Pharmacopœia; but they had the shop recipe-book, and there was scarcely a process in the art of pharmacy with which they did not become familiar in work. We say work purposely, because Mr. Newsholme has not dignified it with the word "practice," which he might have done if any thought of the high position he now occupies tempted him to throw a glamour over his pupilage. The older we grow and the more extensive our experience becomes, the more are we apt to reflect that the earliest years of our experience were the shaping of our destiny. Possibly there is some truth in the conceit, but we could extract nothing

from Mr. Newsholme to favour the idea that his apprenticeship was an experience to be proud of. He learned all branches of the business thoroughly, for the simple reason that he found himself there as one of a staff which had to do so much business every day. Pill-masses to make by the pound, tinctures to put on and finish, plasters to compound and spread, soon make a lad expert; and Mr. Fell's apprentices had plenty of exercise at the iron mortar powdering black antimony, aloes, and carbonate of ammonia, amongst other things more or less disagreeable but muscle-developing. Their experience of things was equalled by knowledge of men, for the everyday stream of customers from town and suburbs, with needs as varied as their ills and occupations, engenders an acquaintance with human nature which is eminently serviceable in after-life. One feature of Mr. Fell's business which must have been of the greatest service to the apprentices was his *per contra* relations with wholesalers. Huddersfield was in the centre of a district which produced myriads of red poppies and pansies, and when these were in bloom the apprentices had plenty of work. The flowers were brought in by the cart-load, and had to be converted into syrups by the simple process of packing them and sugar into hogsheds and pouring boiling water on them. The pansy-petals had to be picked from the calices, and tired, tired were the apprentice fingers during the weeks when syrup of violets was made. The finished syrups were sent to London and elsewhere, and, strange to say, York sent pansies to Mr. Fell's place in Huddersfield, and he sent them back as syrup.

To the modern apprentice, whose experience of plasters extends to taking a beautiful spread article out of a box and tenderly handing it over to the customer, it may be of interest to know that the President of the Pharmaceutical Society had to take them from a cruder stage. His experience began with the litharge and oil, thence through all compounding stages up to the forming of rolls on the marble slab, and division thereof into the penn'orths which the pedlars of the district required. One day, while he and his senior were busy rolling and cutting "oxycroceum," an Italian organ-grinder who knew no English came in and eyed them with watering mouth. He thought they were manipulating some toothsome confection, and the language of signs persuaded him to put a penn'orth in his mouth. The apprentices had a terrible afternoon. The organ-grinder came back with fixed jaws, and a friend with a dagger, who stood over the apprentices while they picked the plaster from the grinders of the irate Italian.

In course of time Mr. Newsholme became senior apprentice, and, short of the supervision by Mr. Fell's brother, who was manager, he had charge of the shop, as Mr. Fell had a lead business in Skipton which took him away two or three days a week. Mr. Newsholme had by this time negotiated the Preliminary examination, and had attended science classes in the Mechanics' Institute of the town, the late Mr. George Jarman being the teacher. Besides that Mr. Newsholme had little opportunity for acquiring pharmacy theory; indeed, he almost confined his reading to Pereira's "Selecta e Prescriptis," and that was owing to his fondness for Latin. He used to dispense all the prescriptions in it that he could which Mr. Fell assented to, and, although one or two genuine prescriptions were all that came into the shop per week, these latterly he dispensed. He was the dispenser of the establishment. So it happened that when the five years' apprenticeship was finished, and he had served an extra year as assistant, he received from Mr. Fell a testimonial, in which his expertness as a dispenser was specially referred to. With this he obtained a situation as dispensing assistant to the late Mr. Chas. Jones, Birkenhead.

Here properly Mr. Newsholme's apprenticeship ends, but that of a president does not until he steps into the presidential chair. So we may carry the story a little further. After studying at Muter's, he passed the Minor and Major. On the day he got his Major certificate he called at Messrs. Barron, Harveys & Co.'s, where he learnt that Mr. Radley, of Sheffield, wanted to sell his business. He saw Mr. Radley on his way home, and three or four months later came to terms with him. It was a fine prescribing-business—the very thing he did not want; but he took it, telling Mr. Radley he would not carry on that branch. Mr. Radley was horrified, but lived to say that his successor had done the right thing.

It is a unique circumstance in the annals of pharmacy that the founder of a business and his successor (Mr. Radley and Mr. Newsholme) and uncle and nephew (Mr. Bateson and Mr. Newsholme) have been on the Pharmaceutical Council together. Also that the lad who commenced his pharmaceutical career with astonishment at being used as an errand-boy has lived to be the first provincial pharmacist to be President of the Pharmaceutical Society.



A Pupil of Henry Deane.

THAT may almost be said of Mr. Nicholas Henry Martin, of Newcastle-on-Tyne, for although his actual apprenticeship was not served in Clapham, Mr. Martin went to Mr. Deane at a stage in his pharmaceutical career when he was hungry to learn more than he had yet acquired. We venture to give Mr. Martin's own words in regard to the matter. "Mine," he writes, "was a very ordinary apprenticeship in a small country town to a man who undertook to teach me the art



and mystery of the craft, and who knew little, if anything, of botany or chemistry, but there were many other things he did know. He was an excellent judge of drugs, and kept good ones, and he was quite an authority in prescribing for all manner of human and animal ailments." Mr. Martin started his apprenticeship with an excellent grammar-school education, he was an insatiable reader, and the pharmacy afforded him the opportunity to put his reading into

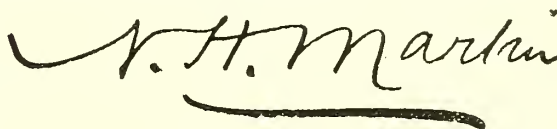
practice. We daresay he shudders now when he thinks how after a few months' experience he treated complaints in young and old, but there was never an inquest. He read Neligan's "Medicines" from cover to cover, more than once, and Barlowe's "Practice of Medicine," *con amore*. He sweated over Bentley's "Botany," and with it as a guide named all the common plants in the neighbourhood. In chemistry he read through and through Galloway's "First Step to Chemistry," and worked every equation of the various double decompositions, but missed guidance in that subject more than any other.

During his apprenticeship his father died, and he had so arranged the patrimony that at the end of his apprenticeship the son found himself with a small sum of money in hand and the whole world before him to make his own way in it, or rather in his chosen occupation until he reached 26. "If my father," writes Mr. Martin, "had had any idea that it would have been desirable for me to have had money to carry on systematic study, I am sure he would have so arranged it. As it was, I went to London in May, 1867, and took a situation in Bruton Street at 30*s*. a year, indoors. In October out of this I paid the fees for the courses of lectures on chemistry (Redwood) and botany (Bentley) at the Square, and passed my Minor in February, 1868. Then I went on reading and working, but in April I had notice to leave my situation, as the business had changed hands, and my new master wanted an older assistant. I went to Mr. Deane's at Clapham in May, 1868, still very anxious to complete the botany course and go to Bentley's lectures at the Gardens. One

evening I summoned up courage and, promising to make good the time and work, asked Mr. Deane if I could be spared the two mornings a week to go to these. 'No; your duty is to do my work, and I can't spare you!' he replied. That was discouraging enough, but it compelled me to read still more systematically. My shop-hours every day were from 7 A.M. to 9.30 P.M., but I read early and late and late and early, 2 A.M. to 6 A.M. being the sleeping-hours until December 12, 1868, when I passed the Major in honours. When Mr. Deane, who was an examiner, came home that evening, he greeted me very warmly and said, 'Martin, I am as proud of you to-day as if you were my son.' It appears that I obtained the highest marks of the session. Daniel Hanbury, who lived at Clapham, and who had examined me, came into Deane's shop specially to congratulate me. That day commenced my real acquaintance with the leaders of pharmacy.

"I stayed at Mr. Deane's the next four or five years until I went into business on my own account, and although our shop-hours were still 7 to 9.30 I continued scientific work, and mounted during that time about 1,000 microscope-slides. On my off-evenings, one winter, I demonstrated a course of lectures on the microscope at Brixton by Mr. W. T. Suffolk, where I used to meet Mr. B. Daydon Jackson and others, and examined several batches of dredgings which Mr. Gassiot had from friends in the Navy. So my attention was turned to *Foraminifera*."

It will be remembered that Mr. Martin's late partner, Dr. H. B. Brady, was so eminent an authority on the *Foraminifera* that he was requested to work up the dredgings of the *Challenger* in that department, and his book on the subject is a monumental work of erudition and patience. It is strange that Mr. Martin should have branched out into that subject after the Major was over, and that he should afterwards have become the partner of the one man in pharmacy who best knew his favourite subject.



George Claridge Druce.

I HAVE been asked by the Editor to say a few words about my apprenticeship, and his request gives me something of a shock, for it at once suggests that one has passed the meridian of life, and that time has rushed by on such eagle's wings as to be positively alarming. Then the personal tone which such a notice must assume is disconcerting to one so nervous and, comparatively, bashful as myself, but this personal element will, I hope, not be so pronounced as to be distasteful to my readers.

My early days had been spent in a quiet country village, where, brought up by an indulgent mother, and under private tuition, I had acquired an intense love for natural science, which, thank God, has never waned. I prided myself on knowing the haunts of bird, insect, and flower of that forest district of Whittlebury which lay adjacent to me. Although my people had been connected with the land for many generations, I never cared for agricultural pursuits, but had devoured with eagerness such scientific books as I could lay hands on, practising such chemical experiments



as lay within the compass of my attainments. These led the way to the selection of the business of a chemist and druggist as the one for me to adopt.

Many replies came to my advertisement, in which the premiums asked varied from 80% to 300%; eventually one in our county town was chosen, at which a premium of 100% for a four years' apprenticeship was asked, and subsequently paid. Accordingly, my heart in my boots, I left for the first time a gentle home, and entered for a month on approval. The business to which I went was such a one as several of our Midland towns could then show before the segregation which is such a characteristic of these days had become pronounced, for this was a retail and wholesale business—a retail of a mixed character, from dispensing and prescribing down through the various grades of ordinary retail, veterinary preparations, pickles, and paints, *et hoc genus omne*. The wholesale was even more varied, for it comprised, in addition to the foregoing, sweets, tea, oils, blacklead, blue, and starch. Further, the manufacturing of galenicals, such as the green extracts, expression of juices, distillation of waters, killing quicksilver, grinding linseed cake and salt-petre, powdering drugs, and making anchovy sauce and varnishes, burst upon me in a fearful and wondrousome manner.

Our staff consisted of the principal, a man of means and of parts, who, but for the fact of his having a good competency, might have made his business such a one as that of another of the great Midland firms which still flourish. He was a prescriber with a great reputation, and a string of customers from widely separated parishes in the county came in on market-days to benefit themselves by his remedies, and him by their fees—a symbiotic combination now so strongly condemned by the powers that be. I can, however, assuredly say here, so far as my experience goes, I saw none injured but many benefited by his common-sense method of treatment. Next to him was the general manager, who proved to be a kindly and intelligent man, who has subsequently, I believe, become successful elsewhere; then a dull individual took care of the retail, and of himself, in the latter case by leaving undone all that he could possibly make one junior to himself perform, the junior being in this instance the senior apprentice, a real good fellow, who was then nearing his release.

In the wholesale we had a jovial traveller, with only one enemy in the world, who called upon the village doctors and small shops throughout the greater part of the surrounding counties. An apprentice assisted the porters to put up the assorted orders he sent home. Then we had an engine-man to look after the ten horse-power boiler and laboratory. My fate was to go to the wholesale, and assist generally in putting-up orders, and to make such preparations as could be safely entrusted to me. My first initiation was to make 6 gals. of syrup of red poppies, and the task of bruising and expressing the juice from the petals was not a light one on a hot June day for a boy of 15, but my fellow-apprentice lent his hand and we turned out a presentable article. The evaporating-pans were a wonder and delight to me, and I found their use shortly after when a ton of henbane, which we crushed under the linseed-cake stones, had to be made into green extract. Less pleasant was the monotonous folding-up of grosses of 1*l*. saffron or hiera picra, or the bottling of three dozen pints of castor oil out of the horrid square tins into the stupid and irrational long and narrow-necked bottles which were then in vogue. How greasy I got! Like an artist, I dabbled in "oils and paints." And then, released on market-days from the wholesale, I came into the shop and served pennyworths of hair-oil galore. A gallon was a normal quantity to sell in these small quantities on these days, and the amazing numbers of pills, ointments, and plasters, and crude drugs! Grosses of packets of senna, saffron, chamomiles, jalap, hiera picra (I can see the very drawers of them now), went off in astonishingly quick time; and, oh! the vile wretches who doctored themselves with Venice turpentine (made by me on the premises), Locatel balsam, or the balsam which is not balsamic. Then I might be called to fetch up some leeches, or hold a man's head while his tooth was pulled out, or mix a special draught for some "coo" in an interesting condition. Worst of all, later in the year, was the sale of pints or gallons of fish oil, for then the cotton-seed oil had congealed; and to get it into one of the stinking tins, and to get it out of

the big cistern by letting down a measure with a rope was a sickly operation. As luck would have it, our assistant left shortly after I was duly "bound," and I got a move up, as the new one, who had been through a six years' apprenticeship at Beverley, during which, as his employer shrewdly, if not kindly, said in his reference "if he possesses any talent, business or otherwise, he most successfully concealed it." As he came for a salary of 15*l*.—well, what could one expect? So he was put to do the dirty work of the establishment, much to our relief, if not to his satisfaction. Meanwhile, I tried to make myself acquainted with everything that went on, and with a zeal that, perhaps, had something deadly in it, began the task of preparing everything in the London Pharmacopœia, as well as all the proprietary preparations of the firm. My Beverley friend was not to be trusted in the laboratory, for his first essay at preparing white spirit-varnish was a failure, since he put the gums and resins into the steam evaporating-pan, put on 2 gals. of methylated spirit, turned on the steam, and went out surreptitiously to get some of the liquid extract of malt, which his system seemed periodically to require. His irate questioning of one and all later on as to who had taken away the spirit spoke volumes as to his mental capacity.

Speaking of methylated spirit brings to mind the fact that at that time (1866) a large business was done with the village shops in methylated tinctures, sweet nitre, and sal-volatile, and as there was no fear of a Sale of Food and Drugs Act before one's eyes, judicious (from a purely economical point of view) substitution was employed in many preparations. Beeswax (the paraffins were not then articles of commerce) innocent of *Apis mellifica* was prepared, which if it had not a blush on its face, frequently had a bloom, from the vegetable wax of Japan which entered into its composition. But these and similar things were sold as sophisticated.

Towards the end of my first year's apprenticeship our manager left, and I was appointed to take charge of the retail counter, so my laboratory work became somewhat intermittent; but I had by this time passed my Preliminary examination, and I now and then had a day among the steam-pans in order to prepare a 10-gal. batch of Brunswick black. I wonder how many students of the present day know how very light vegetable black is, and how long they would be over the job! Almost more trying, although less dirty, was the task of rubbing 20 lbs. of anchovies through a hair sieve to make a batch of the essence which I now never see on the tables of the Métropole without thinking, not of the eternal sole, but of the darnation backbone.

My career of manufacture had once a sudden check, for an order required at once for 8 oz. of iodide of mercury (in ointment) for the late Empress of Austria, who had a hunting-establishment in the neighbourhood, nearly blinded me, for we were out of the iodide, and could not get enough in the town, so I essayed to make it by rubbing the mercury and iodine together, checking the exuberance of their chemical action with alcohol. A little of the boiling solution of iodide, free and combined, spurted into my eye and caused me exquisite suffering, but fortunately with no after-effects, and I got off my order before I took to bed. I may say that, as far as supervision went, we had little or none; certain hours had to be kept, an attendance at a place of worship once on a Sunday insisted on, and beyond these we were left very much to our own sweet will. To the idle or the vicious this liberty was bad; but my companions, with one or two exceptions, were neither, and I do not think we wasted our master's property even in the somewhat reckless way we made preparations, which would not be attempted now in many pharmacies. Cooley's "Cyclopædia of Receipts" was a fascinating book to me, and Faraday's "Chemical Manipulation" a mint of wealth. Thanks to Faraday, I have iodoform by me made in the sixties, long before its uses were understood. Before two years of my apprenticeship were over my friend the old senior apprentice left, and I succeeded to his post as senior in the establishment, and, although a general manager was talked about, he never came. Therefore I had now to do the dispensing, as well as keep all the books of the establishment and generally superintend its affairs. As I had then to do all the various jobs, and make or assist in making all the various galenicals from 20 gals. of elder-flower water and 10 gals. of syr. ferri iodidi to Venice turpentine and Brunswick black, the gamut was a

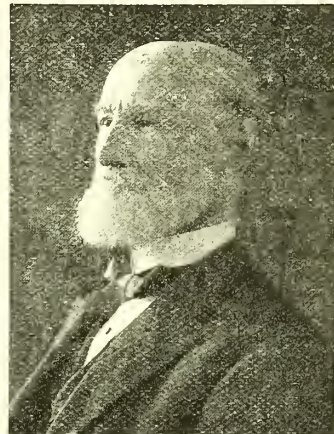
large one. My employer was good enough to send me out with his son, about my own age, for a fortnight's holiday, giving us 15*l.* to do it on, and we spent it in a walking tour through North Wales. The hotel bills, which I have still, are curiosities of cheapness, for everyone was kind to the two schoolboys which we were taken for, and I did not explain that I was occupying such a responsible position. At the end of my second year he gave us 20*l.*, and we visited Scotland for a fortnight, climbing Cairngorm, Ben-y-Vroe, and Ben Nevis; starting from home by the night train after a heavy day's market work, and aching in every limb, for the third-class carriages in those days were not upholstered, reached Edinburgh on a Sabbath morning. My employer lived much at his country house four miles away, and during the summer I rarely missed walking out there to breakfast, and I learned my botany on the walk, reading Lindley's "Introduction" on the way. We had breakfast at 7.30, and then either walked, drove, or rode back with one of the boys, who came to the town to school. Our engineman was a strict Calvinist, and at times, especially after St. Monday, impressed upon us with a free flow of words his views about predestination and the fact of his being one of the elect with great force, if not lucidity. He kept the secrets of his work very close, but I got him by special favour and some liquid argument to show me how to stoke the boiler, to get up steam, and even to work the machinery. Well, this knowledge once stood me in stead, for one autumn, when we were very busy, the sheep-ointment season being on, he was laid up with lumbago, which he attributed to mercury, but I to beer, and consoled him by saying it was evidently predestined, or it would not have happened.

As my employer, who knew nothing about my participation in the engine-man's secret, was away, I thought it a favourable opportunity to show off my knowledge. I went into the laboratory, where I soon got up steam, and had melted the tallow, lard, and ung. hydrarg. fort., and was mixing them with my bare hands and arms in the huge wooden tray, while downstairs the great stones were keeping down the steam by grinding linseed-cake under the care of a young porter, while the errand-boy was at the boiler watching the height of the water. Messages were flying up the speaking-tube in grand style, when I caught a well-known step on the stairs, and up came the boss, stamping and raving, his hair almost on end, at my daring to get up steam. On learning the facts, he, like the fat, cooled down, and he was soon meekly holding the two-pound snuff tins into which I ran the ointment, which I had been manipulating in the manner described. I was sure to be salivated, he said, but I was not, and my twenty pounds was despatched the same evening. On his return our Calvinistic friend was obliged to confess that nothing was wrong except that I had used up all his "killed mercury." In passing, one may say that at this time we bought glycerin by the pound; that the 20-lb. mass of antibilious pills was rolled out by women on the ordinary 24-pill machines; that emetics were still kept ready for sale; oil of swallows, and of worms, and of wheat were often asked for, and the people who asked did not go empty away. Carbolic acid was practically unused, and patents were sold at full price. Our hours were from 8 to 8, and 10 on Saturday. I was on duty two nights a week and every other Sunday. About the end of my second year's apprenticeship my friend Branson was initiated into our mysteries, and many and fearsome experiments we made together. He was strong on mechanical appliances, and our united efforts made the traversing of the adjoining passage to our premises, which led from one street to another, a thing not to be lightly undertaken after "closing-time" on Saturday night (12 o'clock it was then), and we did much to convert the erring ones, although language was occasionally evolved which was not as good as it should have been. My sides even now shake at some of the remembrances of that long-ago time. But one must not enter upon one's anecdotal too soon. Let me say that my fourth year soon came to an end, and a 20*l.* Beck's binocular still shines upon me as a memento of my employer's recognition of the end of my apprenticeship.

J. C. Duce

An Edinburgh Apprenticeship.

I WAS apprenticed (writes Mr. J. B. Stephenson, Edinburgh) to a firm of chemists and druggists in this city for five years, my indenture dating from January 1, 1842. By its terms I bound and obliged myself to serve honestly, faithfully, and diligently, by night and by day, including Sabbaths when necessary, and, further, not to reveal the secrets of my master's business or his employers, nor to dispense drugs or medicines on my own account. On the other hand my master bound and obliged himself to teach and instruct me during the time of my apprenticeship in the art and business of a chemist and druggist, and in every part thereof, in so far as he himself knew and practised the same, and to use his best endeavours to make me skilled and expert therein. My master



was to provide me with bed, board and lodging in his own house or in the back shop if required (this in lieu of salary). I being at the expense of my own clothes and washing. There was also an agreement (though not specified in the indenture) that I was to be allowed time to attend two classes at the University, in the fourth and fifth years of my service. There was no premium.

When I first entered there was only one other apprentice who was in the last year of his time, and my first year was mainly occupied in running errands, indoor work about the shop, such as cleaning bottles, scales, &c., and pounding in the big iron mortar—in those days we powdered all our own drugs such as aloes, cubebs, and nitre. As business increased, and I progressed in knowledge of the work, these acts of drudgery were transferred to the message-boy, and although my services in these capacities were still from time to time brought into requisition, I had more time and opportunity for learning my proper duties. The other apprentice left during the second year of my term, and shortly afterwards a junior apprentice was installed, and I became practically senior assistant, there being no employé between me and my master, who, however, was always a close attender on business, being rarely out of the shop.

I cannot recall ever having received any formal instruction or tuition in chemistry, or even pharmacy, from my employer, but as we had a good going business, of which the bulk was dispensing, I had every opportunity of picking up the working details. I can remember being encouraged to read Christison's "Dispensatory" (which, with the exception of the Edinburgh Pharmacopoeia, was the only textbook we had), and although the only time I had for reading was after 9 P.M. and in the back-shop (we closed at 10, but after 9 we were allowed to read, should customers not occupy us), I managed to get through the book oftener than once. From a very early date, too, I was allowed to dispense—especially ointments and pills—but was always strictly catechised, and made to recite all the ingredients and their quantities. In addition to this we prepared all our own stock pills, tinctures, ointments, &c., of which work I had my full share. I can recall the interest I took in it. Percolation had been recently introduced, and we had adopted it for all the tinctures it could be applied to. There was no "division of labour," and I had the inestimable advantage of witnessing and assisting in every stage of the process, from the bruising of the crude drug to the turning out of the finished product. In those days there was an enormous demand for pills, particularly pil. colicc. co. and pil. aloes et asaf., the latter being turned out in quantities of not less than 1½ lb. at a time, and all for retail sale.

In the last year of my apprenticeship I attended the University lectures of Christison and Gregory on materia

medica and chemistry respectively, and it was from them—and especially the former—that I believe I really learned my business. It was Christison who put life into the dry bones of shop-work, and my business seemed to me to take a new form from that time—since then only have I considered myself as actually master of it. Although intimately acquainted with its details before I attended the classes, it was the scientific facts and explanations, many of which came as an absolute revelation to me, which cemented my knowledge and made a pharmacist of me.

My experience goes to show that practical training, supplemented by theoretical knowledge, is superior to a theoretical training into which a portion only of practical work has been thrown.

P. B. Stephens

Peter Boa.

It is just over thirty years since I began my apprenticeship in a country town—Stranraer. My apprenticeship master was Mr. James Dorman, who, I am glad to say, is still alive and well, and taking an active part in business. During my last term at school, when the subject of an occupation

for me began to be discussed, I had not developed an inclination for any one business. There was just a trace of a suggestion in my mind that I would not object to go into the local bank. That I was not to be a draper or a grocer I had quite decided. About the end of my school time Mr. Dorman had been visiting in our neighbourhood and saw me. He told my parents that he wanted an apprentice, and suggested that I should become



a chemist. My feelings having been consulted, I made no objections. There appeared to be more mystery about this business than drapery and groceries. Besides, I was very "soft" on Latin, and this seemed a good chance to air the little I knew of it. I went on a month's trial, and at the end of that time my employer said he could put up with me, while I, although not greatly enamoured of the "magic and smells," took the Shakespearian view of the matter, and decided that as I had begun I might as well continue rather than risk falling into something worse. I was accordingly indentured in proper legal form for four years.

The hours of business were from 8 A.M. to 8 P.M., with intervals for breakfast, dinner, and tea. On Saturdays we kept open till 10.30. On Sunday the shop was open for an hour morning, midday, and evening. Weekly half-holidays had not then been introduced, and summer holidays were not in fashion, so I had not an opportunity of enjoying either. During my four years of apprenticeship my holiday time was some three or four week-ends and a Queen's Birthday. I did not grumble. My governor was not more stingy than others. It was just the way of the town. There were few Sundays on which I was not on duty part or whole of the open time. I rather liked the Sunday duty. It gave me a feeling of importance, and I derived a lot of entertainment from observation of the humours of Sunday shopping. At times I believe I must have been unsuspectedly wicked. I was very sparing of giving small change on Sundays if the client were "near" and on the way to church. On one occasion, however, I was "had." A feminine church-goer of this sort asked me for two halfpennies for a penny. With

appearance of great regret I said I was sorry I had only one in the place. She said she would take two or three peppermints and that halfpenny for her penny.

The work I had to do was of a good class and very varied. There were two apprentices besides myself. We had packets of medicines such as Epsom salts and "Gregory" to put up; horse-balls to make; parcels of arsenic and soda to weigh for sheep-dipping, and of blue-stone for wheat-dressing. These things were all sent out in good style. There was money in them for the governor and education for us. Of dispensing we got a fair quantity, made up of local prescriptions and those brought by visitors. On market days we were usually very busy. The farmers brought goodly orders, and the articles had to be sent to their conveyances from 3 to 5 o'clock, according to their time for leaving. When a lot of heavy goods were ready and the porter not at hand, we just hoisted them on to a barrow and raced them round to the hotel yard. And we took off our coats to it, and enjoyed it. The youngest apprentice had to take out parcels when necessary.

We did a considerable trade in Belfast aerated-waters. These came in large square hampers holding 10 or 12 dozen packed in straw, with not room for one bottle more—a regular tight fit. It was a tradition in our establishment that we must pack the same number of empties safely into the hampers. It required practice, but one after another acquired the art of doing it, and rarely was there a report of any bottles broken. I personally even now enjoy lending a hand to pack a hamper.

Mr. Dorman was a man of good education and business habits. He was a good example to us in business affairs, and he encouraged us to read the standard books relating to pharmacy. He had a good library, containing many works on medicine and pharmaceuticals. A Latin Pharmacopoeia and a book on physiology written in Latin (the author's name I have forgotten) afforded me practice and entertainment. I was jogged up from time to time by the governor in regard to my Preliminary. About the end of my apprenticeship I passed this examination quite off my own bat. I had to go to Dnmfries to "sit" for it. It was then I first became acquainted with Mr. Allan, of that town. He was then the local superintendent.

So far as I can form an opinion from observation and personal experience, I would say that apprenticeship in a good country business is bad to beat as a start for a pharmacist. He sees more variety than a town apprentice. I have had a qualified assistant, town-trained, ask me how much aloes had to be put into a 6-dr. physic ball, and whether the dose of areca-nut was the same as santoinin. My apprenticeship experience has served me well. Knowledge gained then has since enabled me many times to score. Then I had to make pills, tinctures, ointments, and many other things, and derived satisfaction from the work. My apprentices now get these things to make, and they mostly appear to take an interest in the processes. This work is a training in manipulation and attention to detail which is essentially valuable to a young pharmacist. Making one's own galenicals is said by some to be out of date and not modern business. It may still, however, be permitted to me to call it pharmacy.

Peter Boa

From Pen to Pestle.

I SERVED my apprenticeship with Mr. William Blain, pharmaceutical chemist, in my native town. Being over 19 years old when I went to him I served only the statutory three years. Seven years had passed from my leaving school, and during this time my employment had no special bearing on the business I was to take up. I had no science training. I was a member of a literary society, and wrote for it several papers, and got considerable practice in speaking. This was a help afterwards in that it destroyed nervousness and self-consciousness, and when I faced the examiners I was able to do my best.

At 18 I passed the Solicitor's Preliminary, and shortly afterwards circumstances turned me to pharmacy. I went to



Mr. Blain in March, 1875, and in the previous January I began to attend science and art classes in inorganic chemistry at the Church Institute, Bolton. This subject being quite strange I found it very difficult, especially the calculations, for the weakest point of my elementary training was arithmetic. I was much helped by my friend, Mr. W. Mason, pharmaceutical chemist, who was a fellow-student. The next winter (1875-76) I again took the science-and-art class in organic chemistry, and this time got along

better, but not to my satisfaction. I came to the conclusion that if I was to pass I must attack the subject in a different way, and when the winter of 1876-77 came round I put the chemistry-class aside and took human physiology and botany. This was the first Science-and-Art botany-class held in Bolton. It was taught by Dr. Norris Wolfenden, the throat specialist. He used Sach's "Botany," and was an excellent teacher. I got a first in both subjects at the examination, and a special prize from Dr. Wolfenden himself for botany. During my last winter as an apprentice I attended Mr. Siebold's classes bi-weekly in Manchester, and, using "Attfield" I got on much better with chemistry. The classes were held in the evening and taught by Mr. Siebold in connection with the Manchester Pharmaceutical Association. I took also materia medica and pharmacy, this being my first systematic teaching in these two subjects. During my whole apprenticeship I was reading and studying the Minor subjects, and in the summer months did some botanising. I made friends also with a gardener who had care of the largest range of glass-houses near Bolton, and obtained many specimens from him, especially in winter, when wild flowers were not to be had. Mr. Blain's son was a fellow-student, and we regularly talked over our studies, affording help to each other. As to dispensing, my master had the leading business in the town in that respect. From the point of numbers we should fall a long way behind businesses in towns where doctors prescribe more than in Bolton, and in those years there were neither specialists nor consultants here. But still, prescriptions were not few, and coming as they did largely from Liverpool, Manchester, and London, they afforded an excellent training in dispensing, and I had no fear on that score when I entered the Society's house in Bloomsbury. We made enough of tinctures to give us a good knowledge of the processes. We also made all our pills, suppositories, &c., so that we had a very fair training in practical pharmacy.

During these three winters I kept up my connection with the Literary Society, attended as often as I could, and wrote a paper each winter.

My apprenticeship expired March 8, 1878, and I entered a class which Mr. Siebold was holding for the June Minor. This was a full-time class, and surely there was never its like. Some day I may write some of its story.

Having got a good grip of botany, I needed little more than to keep it fresh in mind, and this enabled me to devote more time to chemistry—the subject of which I was most afraid. I worked hard and systematically, but kept Sundays quite free from study. Twice whilst the class existed we had a botanical ramble.

I passed the Minor in June, 1878—three years and three months after entering the trade—and have ever since regretted not taking the Major.

Looking back, I feel it was a great advantage not coming into the trade as early as was and is customary. I escaped much of the drudgery which usually falls to the junior apprentice, though there was little of that when I served

my time for anyone. My previous employment had accustomed me to conversing with people my seniors in age and superiors in position. Hence, when I came to the counter and examination-room, I was not nervous. I was old enough, also, to appreciate from the beginning of apprenticeship the difficulties to be faced, my ideas were naturally more settled than a lad's of 14; consequently, I lost no time, but studied hard and steadily until my end was gained. But, if I could go back now, whilst I would not choose to begin shop-life much earlier, I would spend the years between that and school in getting a good secondary education. I think we shall have to cease looking for lads of 14 or 15, and make up our minds to take older ones for shorter terms than were or are common. I think, for a young man of 18, the statutory time is quite enough. We shall lose the cheap labour of young apprentices, but they and the trade will gain in proportion.

John Taylor.

A Wholesaler's Experience.

WHETHER long apprenticeships are preferable to short ones and whether pharmacists are better taught by their masters now than formerly, are subjects well worthy of consideration. I have been asked to contribute my experience, but, with George Canning's knife-grinder, I could exclaim,

"Story! God bless you! I have none to tell, sir."

But I will jot down a few facts that may possibly prove of some interest as bearing on the above propositions.

In the year 1856, on November 1, when 14 years of age, I was formally bound apprentice to Mr. Thomas Bickerton Evans, one of the senior partners in Evans, Sons, & Co., of Liverpool, and a liveryman of the Grocers' Company. This took place at Grocers' Hall, Baron Heath, Italian Consul-General in London, being then master of that ancient company, once the Peppercorns, with the right of searching for and destroying unsound drugs in the City of London, with charters dating from Edward III.

In the early part of the nineteenth century, here would have doubtless begun my actual work, but

I returned to school for several years, and when about 17 set to work seriously at Bartholomew Close. First of all there was plenty to do at the dry-counter, weighing up drugs of all sorts, and becoming familiar with their appearance; afterwards in the wet-room and oil-room, filling bottles with cod-liver oil, essential oils, &c. Then there were months spent at the manufacture of pharmaceutical preparations in the laboratory. In these departments I learnt a great deal about materia medica, a subject that took hold of my mind, and botany was associated with it, which I had liked ever since I had attended Robert Bentley's lectures at the London Institution, and had hunted, when about 10 years of age, for the Bee orchis on Beachy Head. The heads of the different rooms acted well and taught me a lot of things; they take the place of the master in the retail, for there is no doubt that the master has more responsibility toward the apprentice than *vice versa*; it is easier to learn than to teach. In many wholesale houses, especially in old days, apprentices were left to themselves—worked as they liked and learnt no more than they cared about. Such was the case when my



father, J. Sidney Lescher, was apprenticed about 1819 to Jenks, Wheeler & Baidon, wholesale druggists in the City of London.

One of the disadvantages of the wholesale trade for apprentices is that the principals are generally too busy all day long to take much trouble about them, or what they do, or what they learn; nowadays there are but few apprentices in the wholesale drug-trade. But the study of *Materia Medica* is pursued with much greater facility and with much greater benefit to oneself than in the retail: jalap, ipecacuanha, opium, rhubarb, &c., are seen in the original packages as imported. Then there is the garbling and division into different grades of most crude drugs; and one sees them in large quantities, and here and there, offered at the Drug Sales, their principal adulterants. I remember being told at the Square that many in the retail trade at that time had never seen jalap in the tuber or sarsaparilla in the original hank of long fibrous root. The supervision and daily instruction that is given in the retail by the chemist, or owner of the pharmacy, is found in the wholesale with the head of each department; much depends, therefore, on his power of teaching. In the wholesale one misses the dispensing, and laboratory experience scarcely makes up for this want; certainly it is not sufficient for the curriculum, now wisely required, of three years' experience in practical dispensing for the Minor examination, but in my time this was not necessary. In the counting-house I spent several useful years, and this is an essential part of work in the wholesale, and a really good training it is in forming the mind for the many-sided phases of successful commerce. My classical education for several years after I was 14 was by no means wasted time. The more I see of results of education, the more I approve of Latin, Greek, and mathematics as opposed to what is called a commercial education—viz., modern languages taught in England and book-keeping taught theoretically in schools. I see how the former enlarges the mind, exercises the intellect, and forms those habits of judgment and decision on which depends so much of success in after-life.

This brings us to the point of the question of long apprenticeships. In the Middle Ages, to exercise a trade one had to be free of a company or fraternity, and the only way to acquire this "freedom" was by serving as an apprentice to a member of that body.

By a law of the 5th of Elizabeth, chap. 4 (since repealed), everyone in England exercising a trade was required to have previously served as an apprentice to it for seven years. Now, did the master in those days of long apprenticeship teach the whole art and mystery better than at the present time, when the system seems dying out, and threatens to become nearly as obsolete with us as it is in the United States? A long apprenticeship, no doubt, familiarises with work, so that one becomes mechanically perfect in it. Old Montaigne says, in one of his essays: "Arts and sciences are not cast in a mould, but are formed and perfected by degrees, by often handling and polishing." But even in the days of Adam Smith these long years were considered by many as real loss of time. In his "Wealth of Nations," Book I, x, he says—and here he is followed by most political economists—

Seven years seem anciently to have been, all over Europe, the usual term established for the duration of apprenticeships in the greater part of incorporated trades. Long apprenticeships are altogether unnecessary; they have no tendency to form young people to industry; a young man naturally conceives an aversion to labour when for a long time he receives no benefit from it.

Long apprenticeships were quite in the spirit of the old trade guilds; they formed those merchant warriors who established the independence of the Dutch Republic, who fought as burghers of the Hanse towns, and who ruled over Hindostan, but they are not adapted to the spirit of the twentieth century.

Is the Pharmaceutical Society so adapted, and has it kept abreast of the times? I think that it has, and that it has helped much in the scientific teaching of apprentices in pharmacy. Compare their position in the days of long apprenticeship and their present position, owing so much to the necessity of working up for the examinations. I am proud that my father was one of those who met at the Crown and Anchor in 1841 to create the Pharmaceutical Society, and I have always had great affection for "the

Square"—my Alma Mater in pharmacy. The lectures and laboratory instructions there during my apprenticeship enabled me to pass the Minor in 1861—they were more lenient in dispensing than at the present day. The Preliminary was simply a few lines in Cæsar with dear old Peter Squire, and I remember, as examiners in the Minor, Deane, Cracknell, Gale, and Davenport. Old Braithwaite was then manager of the laboratory, and used to come round and see to our work. I learnt a great deal at the Square; this theoretical work, with the experience gained in a wholesale warehouse, certainly gives a first-rate insight into our business. But private study was as essential then as it is now, and even more in the wholesale if one intends to pass the examinations; it was not until 1868 that I passed the Major, and it was this private study, night after night, that enabled me to win the Pereira medal of that year.

In 1863, when 21 years of age, I had taken up my freedom of the City of London at the Chamberlain's office, had been admitted a freeman of the Grocers' Company (where my master, Mr. Thomas B. Evans, certified that I had received no pay during my apprenticeship), and I believe that I had as good an all-round training during my four-and-a-half years as it is possible to get.

Certainly my experience leads me to entertain a firm conviction that apprentices are better taught by their masters now than formerly; I know this is so in the wholesale, and I believe it to be the case in the retail. In the first place, there is far more to teach and far more that must be learned, and then science and a love for science have advanced with such rapid strides of late years. In fact, in this development of things to be taught we sometimes lose sight of the great virtue of thoroughness, and forget with Pope that

A little learning is a dangerous thing;

or with Tennyson, that

Knowledge comes but wisdom lingers.

To sum up, I think there is little doubt that apprentices now are always taught more, and generally taught better than in the old days, and I believe that the ideal state, well mirrored as follows in a voice from Cape Town (Lady Hely-Hutchinson) in the current number of the *Nineteenth Century*, is generally met with at the present day:—

The word apprentice carries with it a vision of thorough teaching by some one who is master of his craft. The apprentice looks to be vigorously instructed in the details of each separate department of the calling selected—from the lowest to the highest branch.

J. H. Hely-Hutchinson

Concentrated Compound Infusion of Gentian, B.P.C.

Gentian-root, in No. 20 powder	... 2 oz.
Dried bitter-orange peel	... 2 oz.
Dried lemon-peel	... 1 oz.
Tincture of fresh lemon-peel	... 1 fl. oz.
Alcohol (90-per-cent)	... 4 fl. oz.
Distilled water	... a sufficient quantity

Mix the gentian, bitter-orange and dried lemon peel, and pour over them 20 fl. oz. of distilled water; macerate twenty-four hours and press off the liquor. Reserve 10 fl. oz., and add to it the tincture of lemon-peel and the alcohol. Treat the mare with two further macerations of 20 fl. oz. of distilled water for six hours each, press off, and mix the liquors, adding any left from the first maceration. Evaporate to 5 fl. oz., and add it to the first portion to make 1 pint.

Dose: $\frac{1}{2}$ to 1 fl. dr.

Elixir of Aletris, B.P.C.

Liquid extract of aletris	... 5 fl. oz.
Liquid extract of liquorice	... 1½ fl. oz.
Tincture of orange	... 1½ fl. oz.
Syrup	... 7½ fl. oz.
Distilled water sufficient to produce	1 pint

Mix.

Dose: $\frac{1}{2}$ to 1 fl. dr.

My Apprenticeship.

By FRED REYNOLDS.



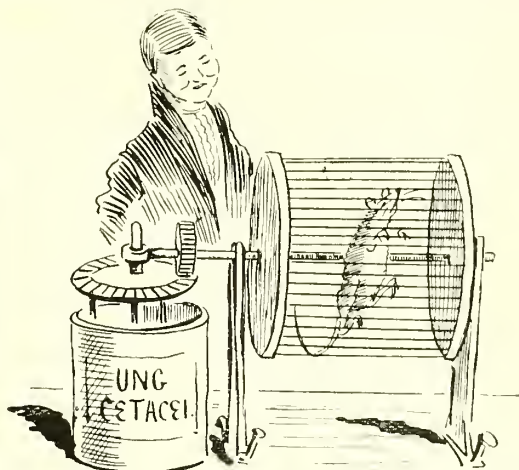
PHASE 1.—A reverend relative apprentices me to a good old Pharmacist.



PHASE 2.—When considered competent I begin to dispense (magnesia levis).



PHASE 3.—By a little arrangement I fitted up in my bedroom I studied Pharmacy and enjoyed the sacred weed without detection.



PHASE 4.—I fixed up an ointment-stirrer, pressing a blind rat into my service. By this means I was enabled to read scientific (*sic*) books.



PHASE 5.—I found the large Botanical Vasculum my master gave me more than useful—fish at the bottom, plants at the top!



PHASE 6.—I soon got my Diploma, and might have been made President, but there was no gold Chain in those days.

Elementary Dispensing-practice.

By JOSEPH INCE.

EMULSIONS—(continued).

TWO things should be remembered in compounding emulsions with tragacanth as an emulsifier—first, that this gum is sparingly soluble in water and swells up into a gelatinous mass, extremely difficult to convert into a clear homogeneous liquid; second, that the moment tragacanth is in contact with spirit it becomes miscible, and forms a clear mucilage with water.

The mucilago tragacanthæ, B.P. 1898 (page 220), is the key to the formation of tragacanth-emulsions. [The first four examples given are to be made in a phial.]

(1)

R	Pulv. tragac. ...	...	...	gr. vj.
	Spirit. v. rect. ...	...	...	℥xij.
	Aq. destillat. ad ...	...	...	℥j.

Spirit on gum, shake till mixed; add the whole of the water, and shake till mucilage is formed.

(2)

R	Quinine sulph. ...	...	...	gr. iij.
	Tinct. aurant. ...	...	...	℥ss.
	Tinct. cardam. comp. aa ...	...	...	℥ss.
	Pulv. tragac. ...	...	...	gr. iij.
	Aq. destillat. ad ...	...	...	℥iss.

Dissolve quinine in mixed tinctures; shake with gum; water to be added in thirds with agitation.

(3)

R	Tinct. cauubis ind. ...	...	...	℥ss.
	Syrupi ...	...	...	℥j.
	Pulv. tragac. ...	...	...	gr. iv.
	Aq. destillat. ad ...	...	...	℥iss.

Tincture on tragacanth, syrup, water.

Pars tertia pro dosi sumenda.

(4)

R	Tinct. guaiaci ammoniat. ...	...	...	℥ss.
	Syrupi... ...	...	...	℥j.
	Pulv. tragac. ...	...	...	gr. iij.
	Aq. destillat. ad ...	...	...	℥j.

Tincture on tragacanth, syrup, water; when guaiacum is suspended by means of acacia, the mucilage must be diluted, aq. 2, mucil. 1, to avoid flocculent coagulation.

(5)

R	Aq. destillat. ad ...	...	...	℥j.
	Potass. iodid. ...	...	...	gr. v.
	Spt. ammon. arom. ...	...	...	℥ss.
	Quinine sulph. ...	...	...	gr. ij.
	Pulv. tragac. ...	...	...	gr. iij.
	Syrupi... ...	...	...	℥j.

Note the curious method of writing water first. Made thus, in mortar: Tragacanth + spirit + syrup. Mix, add quinine; water to ℥ss. In glass measure dissolve KI in aque ℥ss. Mix all together.

(6)

R	Ext. filicis liquidi ...	...	...	℥j.
	Pulv. tragac. comp. ...	...	...	℥iv.
	Aq. destillat. ad ...	...	...	℥iss.

In mortar, alternative method to yolk of egg. Tincture of quillaia, containing saponin, has been found useful in making extemporaneous emulsions: its action is rapid, little skill being required:—

R	Ol. olive ...	...	...	℥j.
	Tinct. quillaia ...	...	...	℥ss.
	Syrupi... ...	...	...	℥x.
	Aq. destillat. ad ...	...	...	℥ss.

In phial. Quillaia, oil, shake till emulsified; syrup; water. Tincture of senega, also containing saponin, is credited with powerful emulsifying-effects which the writer has not been able to realise.

Flitting a Pharmacy.

By "SAMOS."

BUSINESS had become bad. The leading grocer had opened near me (it was a large town), and began selling senna at 2 oz. for 1½d. and other things in proportion. So I decided to look out for a suitable opening where competition was not so keen. Accordingly, I took excursions every Sunday—my only off day—into the adjoining suburbs near me. I found plenty of openings of all classes, and many first-class suburbs either without a chemist, or with only one, who appeared to be thriving. Ultimately I discovered a suburban second-class village about five miles off, with no chemist, and here I decided to open. I took a corner shop, at 18l. rent per annum (I had been paying 55l. and big rates). The idea of "flitting" had not originally occurred to me. I meant to sell, but it was suggested to me that my fixtures were in good condition, and could easily be removed; so I resolved to do so. I put a notice in my shop, stating that I would shortly remove to Greenfields, and an announcement in the shop at Greenfields that "Blank, chemist, John Street, Largetown, would shortly open this shop as a chemist and druggist." I offered to such of my customers as seemed likely various lots of fancy goods at clearing-out prices for cash, which, indeed, was absolutely necessary to enable me to pay for the flit. I put up my shutters for the last time on a Tuesday night. I had, of course, been packing for a few days previously. I packed all stock-bottles standing upright in 1-cwt. soap-boxes, which I bought at 4d. each, putting handbills only between the bottles. Some bottles—such as ether, chloroform, &c.—required the stoppers tying. Sundries were then either placed on top of these or put into three or four drug-hampers. On the Tuesday the local joiner, whom I had engaged for the whole job, removed all the fastenings of the counters and shelves. Early on the Wednesday morning we commenced the "flit." There were my brother, the joiner, the carter, and myself, with a one-horse covered van. We carried in first the nests of drawers, removing only the lower big ones, then the heavy boxes, followed by the lighter articles, the whole contents of the shop being stowed in this one van, but the rough cellar goods—casks and oils—were left for another day. When we arrived at Greenfields we emptied the van while the joiner at once set about the fixing up—first the drawers, then the shelves above, then the counters and show-cases, and lastly the odds and ends. It took the joiner three days altogether taking down and fixing up, during which time I helped him or unpacked my stock. I was able to open on the Saturday morning, roughly fixed, no doubt, but sufficiently in order to take 11s. 6d. in cash. For the moment I did nothing at the windows, which were simply grocer's window-bottoms, but I afterwards made them decent by getting from the blacksmith four long iron rods to run the show-globes on. These cost about 7s. (40 lbs. at 2d.). The total cost of the flit was only about 5l., details of which I give:—

	£	s.	d.
Van and carter, six hours at 3s. 6d. ...	...	1	1 0
Brother, one day ...	...	0	5 0
Joiner, twenty-nine hours ...	...	1	4 6
Painting name ...	...	0	10 0
Gas, plumber ...	...	1	4 0
Papering shop... ...	...	0	9 0
Carting cellar goods, five hours at 1s. 6d. ...	...	0	7 6
Total ...	...	5	1 0

Perhaps my experience may be of some use to a man struggling to make a bare living in a large town, when the suburb near by opens its arms and invites him to enter.

"CHEMICALS, medicines, resins, and perfumery" valued at 8,000l. were imported into Sardinia last year, and of this amount Great Britain alone supplied 4,347l., Sweden, Norway, and Denmark coming next with 2,369l. Similar products exported amounted to 941l., which were absorbed by Austria-Hungary.

The Minor Examination.

Home-made Curriculum.

By ANNIE M. BARR.

THE grind for the Minor is always "uphill" work, and has been compared to the ascent of a mountain. "Hoc opus hic labor est" may be said of both, but ambition as well as love lightens labour. I am a hereditary chemist—the interior of a drug-shop has always been familiar to me, and I early decided to adopt my father's calling. The last year of my school-life was devoted to preparation for the "Prelim." No special difficulty presented itself at that examination, and the Minor viewed from the distance of five odd years seemed merely visionary. As in climbing, one may make a choice of several routes. There is no Royal road! As there were no science classes in our village, and as I imagined chemistry would prove to be the most difficult subject, my first step was to buy a pencil, a large notebook, and "Roscoe." Resolutely and alone I faced his formidable pages, and throughout that winter laboured over Chapters I. and II., making an endeavour to perform the experiments therein, and to answer the appended questions. I fell into the error common to the novice of trying to hurry over the ground too quickly and, besides, "Roscoe" does not accommodate himself to self-taught beginners. Although someone has said that advice is the worst of all vices, I would advise those essaying chemistry to work with the most elementary book they can find until interest in the subject is thoroughly aroused, and they have an intelligent grasp of the leading principles.

When spring came I gladly turned to botany, thinking it would prove less abstract and more easily assimilated than chemistry. I understood that Bentley was one of the great authorities, and, therefore, bought his bulky volume on "Structural, Morphological, and Physiological Botany" (including materia medica). It is about as tough for a beginner as Roscoe. Oliver or Scott would have been much better at this stage. Living as I did in the country field botany naturally occupied my attention. I quickly learned the names and characteristics of the commoner plants and natural orders with the aid of Henedy's "Clydesdale Flora"—a capital book which I found in the home bookcase. Although almost every plant in that work was familiar to my father, he never, by any chance, revealed the name of one until I had found it out for myself by reference to the book. This Spartan method seemed to me heartless at the time, but it has much to recommend it. I seldom or never forgot what I learned. Writing results in a second huge notebook helped the fixing process. My rambles in search of specimens nearly always took place before breakfast, and I often returned with a vasculum full of flowers. Most of them had to be thrown away.

At the end of that summer I had gained a fair knowledge of the natural orders and botanical terms. No doubt, I was greatly, though unconsciously, influenced in much of my effort at this time by my father, alongside of whom I daily worked at the counter.

With the approach of the second winter of study my thoughts reverted to chemistry, and, profiting by experience, I determined to attend classes in a neighbouring town, three evenings per week. Gradually my interest was aroused, so much so that I continued my "ante jentaculum" labours, not wholly from choice, but because another Spartan household law forbade the burning of midnight oil. "There is no armour against fate," and for me there was no option.

The second spring I returned to Bentley with a fixed resolve to conquer his "Mannual of Botany." Notwithstanding the tortoise-like rate of progress, I at length saw the end of Part I. I copied the diagrams to more firmly impress the forms and structures of root, stem, leaf and cell upon my memory. I also made copious notes in the big notebook and tried to remember what I had read by cross-examining myself. Conjointly with this theoretical I kept up the practical work of dissecting and classifying plants.

The third winter I attended advanced chemistry classes. The subject had now become fascinating and progress was accordingly greater than before. At this period I engaged

for the first time in THE CHEMIST AND DRUGGIST analytical competitions. These were done in the back shop during the quieter hours of the day, and have proved of immense value. They would require a special article to do them justice.

The following summer saw chemistry continued and botany extended into materia medica and microscope work. Southall's "Materia Medica," Ince's "Latin Grammar," and the "B.P." were added to my book-shelf, and a microscope and new razor to my laboratory equipment. The making of slides is a delicate process, needing much skill and more time than I could well spare, but although my sections were clumsy I learned not a little in their preparation.

Throughout the fourth and fifth winter I studied all these subjects on consecutive days of the week in my spare time, and once again applied myself to "Roscoe" to learn the chapters on organic chemistry with rather better success than before. Where so much depends on memory as in getting up the Pharmacopœia there must be arduous work. Its various doses appeared to me endless in their complexity, and stern necessity alone urged me on. Another pastime was writing out in full Latin all the prescriptions which came to our dispensing-counter. In connection with materia medica an atlas is of the utmost importance and specimens of the drugs indispensable. Unless their meaning was perfectly clear I found great difficulty in remembering the long, unfamiliar names and so a much worn "Ainsworth" was my constant companion.

Being now acquainted generally with all the requisite subjects I had a long season of "recapitulation and reiteration" not only in the reading, but in the practice of pharmacy. Here "the Art of Dispensing" became my guide, philosopher and friend. To attain proficiency I made pitch plasters on brown paper in wholesale quantities, pills of all varieties by the gross, ointments *ad libitum*, mixtures *ad infinitum*, and emulsions *ad nauseam*. I also read eagerly every description of the examinations given in THE CHEMIST AND DRUGGIST and worked out the specimen papers and ticklish official preparations. Then I took a three months' course at the Glasgow School of Pharmacy, and there made the final spurt and gained enough confidence to enter as a candidate for the examination. I was summoned to appear on December 27, "at 10 A.M. precisely," at 36 York Place, Edinburgh. In order not to disappoint the examiners I took time by the forelock and left St. Mungo by the 6.45 A.M. train. Well do I recollect that winter morning—the early start for a two-mile walk to the station—the black silence broken only by an occasional gas lamp or a solitary policeman—the bustle at the station, and the anxious faces of my classmates who were also called up. As we sped towards the Capital we comforted each other by exchanging "wrinkles" such as "Keep cool," "Look wise, if possible," "Begin with the question which requires most time," and others which we all know, but generally fail to act upon at the critical moment.

Edinburgh always thrills a Scot and, as we walked along Princes Street in search of a breakfast, and looked towards the Castle, and to where the Auld Toon's ridgy back heaves to the sky, we remembered and felt that heroes had fought and martyrs bled even before the era of pharmaceutical examinations. The thought nerved our too timid steps towards the examination hall.

The questions given in my dispensing and chemistry papers were so dealt with that next morning I received notice to present myself, the following week, for the oral examination. The chief thing in connection with this is (presuming you know the subjects) to keep your presence of mind, and to think before you speak, not after. One lady student had good reason to remember this advice as she had to identify over thirty materia medica specimens, the usual number being under twelve. The examiners were, without exception genial, courteous, kindly Scots—not in the least like the ogres I had pictured. Sitting on the funking form after being interviewed by them successively, I had the temerity to ask Mr. — whether I had passed. His answer "Y—e—es" was short, but sufficient. It braced me for the official intimation and handshaking which came later.

Having climbed Ben Minor I have found as mountaineers too often do, that what I thought was a summit is in reality only a shoulder of the mountain of pharmaceutical knowledge. The "Major" is now clearly visible, and even the greater heights of B.Sc. and D.Sc. can be espied in the far distance. They call "Excelsior!" but here I must call a halt.

British Pharmacy in India.

The First of a Series of Articles on the Anglo-Indian Drug-trade.

OF all parts of the British Empire outside the tight little island which some call England, none is of greater importance in trade than British India. With its population of over three hundred millions, the fact is not surprising; indeed, we know that, were it not for the almost elemental habits of the people, the volume of business actually done would be infinitely greater. This is particularly true of the drug-trade. India's medical needs are chiefly satisfied by the produce of the country. Only the well-to-do can afford the luxury of European physic. But the demand is growing with the education of the people, and thousands of native druggists in the bazaars and elsewhere thrive upon business in modern remedies.

Since the days of John Company there has also been in India a strong leaven of British-trained pharmacists. First settled there to supply the requirements of British residents, they have long since ceased to rely solely upon them, as well-to-do and rich natives are amongst their most important customers. In beginning a series of articles on what, for lack of a better term, we may call the Anglo-Indian drug-trade, it is but right we should say that pharmacy in India is not the fortune-making business it was, say, forty years ago. Indeed, "patents" can be bought and prescriptions are dispensed in some parts—*e.g.*, Bombay—at less than in some English provincial towns. India is no longer an Eldorado for pharmacists, and all have to work hard and make a huge turnover before they can ensure a retiring-allowance in time to enjoy it.

We do not adopt any definite order in the series, for the simple reason that we have to deal with a large constituency which cannot be marshalled into journalistic lines just as an editor desires. Facts come slowly, even although the mail takes but fifteen days between London and Bombay. We have, however, to acknowledge assistance from several gentlemen on the spot, and the selection which we now give will be followed by others, so that a fair account of British pharmacy in India may be put on record. To save reference

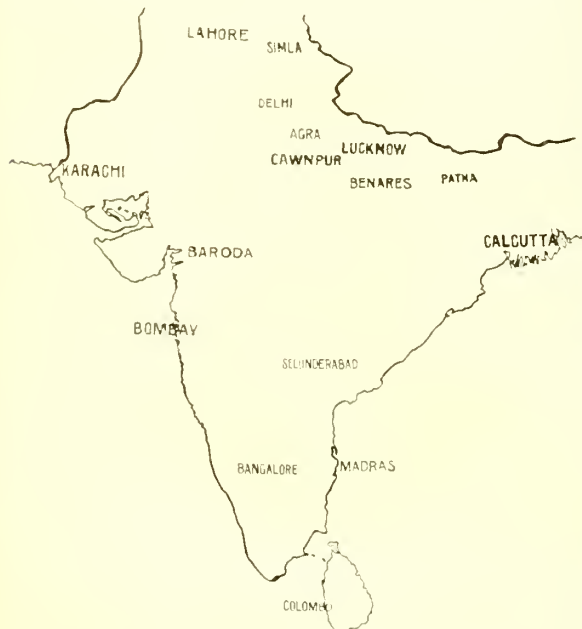
the perfidy of a native ruler, 123 out of 146 British officers and men perished in a single night—killed by the exhalations of their own bodies. This happened in 1756. Scotchmen, who form an exceptionally large proportion of Calcutta's white population, are proud of the Square; its name perpetuates the memory of a compatriot, Fox Maule, first Earl of Dalhousie, one of the most gifted of India's



THE PHARMACY IN DALHOUSIE SQUARE, CALCUTTA.

Viceroy. The gardens on one side give the square an aspect which reminds Scotchmen of Princes Street, Edinburgh; and St. Andrew's Church, which stands at one side, is the head of Presbyterianism in India. At one time the Viceroy's residence was in the square, but for many years now the Residency has been given over to the disciples of Galen. Messrs. Smith, Stanistreet & Co. have their principal pharmacy in it. Here the firm occupy the whole building, and an extensive array of factories and godowns in the rear. It is not, and does not pretend to be, the most imposing pharmaceutical establishment in India, but our readers may judge from the photograph of the exterior that it is no mean concern.

Messrs. Smith and Stanistreet, the founders of the firm, were ship's surgeons who were in the habit of visiting Calcutta during the first and second decades of last century. They saw an opportunity of combining the practice of medicine and pharmacy under one roof, for at that time there were few doctors in private practice in Calcutta except Army surgeons, and their practice was at specialists' rates. Messrs. Smith and Stanistreet conceived the idea of keeping an open shop and giving free medical advice to all comers, who simply paid for the remedies supplied, and we daresay the prices that ruled then left sufficient margin. The actual year in which they started business is not known, but by 1817 they were doing a good trade, and Messrs. Weiss & Co., surgical-instrument makers, London, still preserve a respectable order which they executed for Messrs. Smith & Stanistreet in 1817. While the founders were active men, whose energy had not been blunted by the ravages of time, the business on the pharmaceutical side steadily progressed, but by 1869 it had degenerated considerably. It was then that the late Dr. Charles Noyce Kernot came on the scene. Like Messrs. Smith and Stanistreet he was a ship's surgeon, and then on the sunny side of thirty. He had travelled the world well after taking his medical diploma in Ireland, and had spent some time in Australia as well as at the Cape, and had paid several visits to India. While in Calcutta he saw his opportunity in Messrs. Smith & Stanistreet's business; and in



to an atlas we print here a sketch-map of the country, whose geography is not always easy to figure in the mind's eye.

SMITH, STANISTREET & Co.

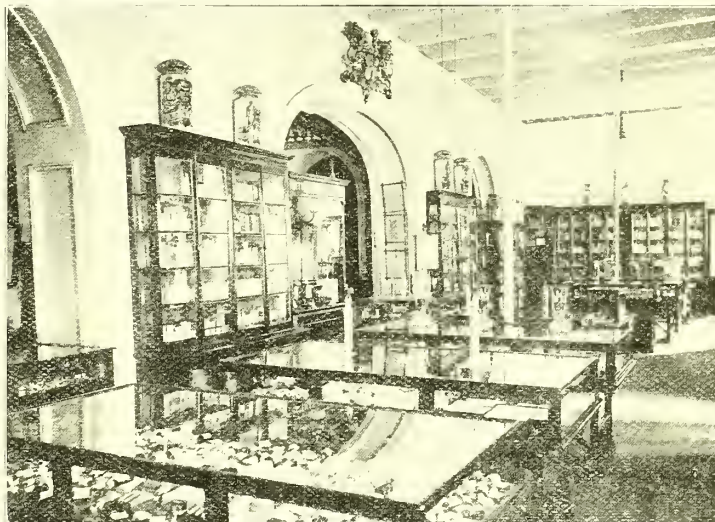
Dalhousie Square, Calcutta, is famous in the history of British India. There stood the Black Hole, in which, through

1869, after proving it and his own capacity to handle it, he bought the business and made important changes in it and on the premises. He was a man of good professional ability, born to control a business concern rather than to vegetate as a general medical practitioner. Under his guidance Messrs. Smith, Stanistreet & Co. (Limited), as the concern was now called, made steady development, and so it continued until his death in 1889, when Dr. Frank Charles Butt (a cousin of Dr. Kernot's and a Guy's man) took over the business in conjunction with Mr. Symington, a Scotch pharmacist, who for some years had managed it under Dr. Kernot. This partnership continued until 1900, when Dr. Butt and Mr. Symington retired in favour of Mr. Charles Frederick Baker, who had been with the firm from 1882 and who took into partnership Mr. Walter T. Grice, F.C.S., who had been an assistant with the firm from 1890. The business is now carried on as Messrs. Smith, Stanistreet & Co.

The firm have four pharmacies—two in Calcutta, and the others in Darjeeling and Howrah. They employ altogether over 230 assistants and servants. The Dalhousie Square establishment is, of course, the headquarters, and it is there that the aerated-water factory, manufacturing laboratories, and extensive stores are located. The photograph of the interior which we reproduce is the front hall of the Dalhousie Square place. The central arch, surmounted by the arms of the Honourable East India Company, gives entrance to the wholesale and manufacturing departments; through the left one is the dispensary, and through the right is a counting-house, where about thirty clerks are employed. To the right of that, again, is the consulting-room, where a medical practitioner is always present to give advice free to all comers. The principals have their desks in the hall, which is splendidly got up. There also is the receipt of custom—a writing-table at which an assistant attends to receive prescriptions or any other orders that have to be executed, and these he passes in to the working staffs of the dispensary and wholesale department. This table is in the centre of the hall in front of the showcases, and beside it is the cash-desk, where a Babu cashier is installed. A very effective display of surgical instruments is made in the table and wall showcases, this being a branch of the firm's business which has been consistently developed since the founders' time, and to which have been added physical and photographic apparatus as well as a spectacle department, now becoming one of the most important pharmaceutical side-lines. The wall-case immediately to the right of the central arch is filled with lavender-water on one half and Eau-de-Cologne and other perfumes on the other. The rest of the cases were wont to be filled with proprietary articles, but are now devoted to the firm's own manufactures, especially galenicals. The whole is a magnificent apartment, as may be judged by the fact that it extends to the width of the building, and is entered by two doors in the front, which are flanked by two windows on each side.

Since Mr. Baker took over the business two years ago he has made considerable alterations in the premises, bringing them thoroughly up to date. The photograph which we produce does not, as a matter of fact, show the improvements which he has made. He has also thoroughly overhauled the manufacturing laboratories and aerated-water factory, as the firm are encouraging more than ever the manufacture on the spot of everything possible that can be produced in India. They hold Government contracts for galenicals, and their resources are such that they frequently execute contracts for the fitting-up of surgeries, including woodwork, glassware, and medicines, quicker than the work could be done from this side. As may be judged, this involves thorough organisation as well as a comprehensive stock. The three branch establishments draw supplies from these headquarters, and the firm have also an important wholesale connection far and near. During his recent visit to England we had the opportunity of a conversation with Mr. Baker in regard to Indian pharmacy, and

he was by no means despondent as to its future, although he admits that competition is keener at the present time than it was when he went out to Messrs. Smith, Stanistreet & Co. as a junior in 1882. Mr. Baker's own experience is an



THE HALL OF SMITH, STANISTREET & Co.'s PHARMACY.

example of what is within the reach of any pharmacist of ability and business tact who goes out to India and sticks to his work. As a boy he was apprenticed to Mr. N. H. Martin, then in business at Hitchin. From Mr. Martin, he told us, he received thorough instruction in the principles of pharmacy, as well as in business management, and that experience he calls the foundation of his business knowledge. Afterwards he had experience as an assistant in Nottingham, Scarborough, Isle of Wight, and at Messrs. Hooper & Co.'s, Grosvenor Street, and passed the Minor in 1880. When he went out to Calcutta he joined a "chummary" of chemists' assistants—this being the local name given to the *ménage*



Yours sincerely
Chas. F. Baker

formed by four or five young men who keep house together with the staff of native servants necessary in India. In the business he worked himself up from the comparatively subordinate position of junior to principal assistant under Mr. Symington, and it is expected that his push and enterprise will still further develop the business. Mr. Grice, his

partner, was with Messrs. Philip Harris & Co., of Birmingham, before he went out to Calcutta, and he had charge of the manufacturing and analytical department, which, indeed, he still supervises with expert assistance.



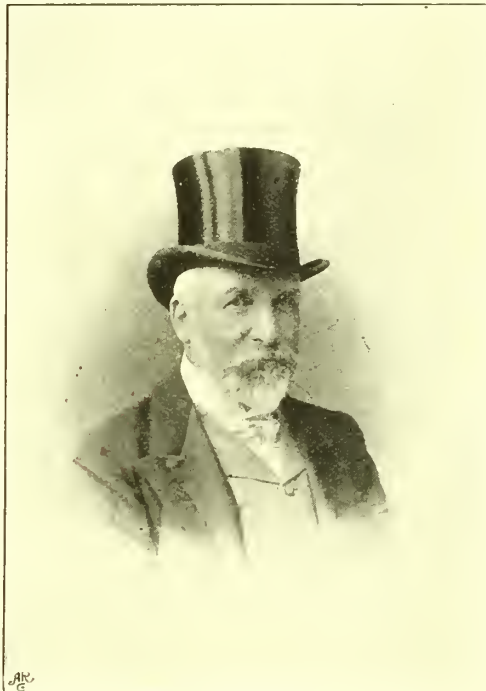
MR. W. T. GRACE, F.C.S.

E. PLOMER & Co.

To pharmacists the Punjab is one of the most interesting parts of India, as botanical explorations by men connected with the scientific side of the calling have located several of the most important medicines there. Apart from that, the Punjab is interesting to all Britishers from the fact that it was one of

the great centres of the Indian Mutiny in 1857-58. The frontiers of the province touch Afghanistan and Cashmere, and from the military point of view it is therefore of importance. The town of Simla is well known as the summer hill quarters of the British Government in India. It is beautifully situated on the southern slopes and heights of the Himalayas, 7,000 to 7,500 feet above the sea-level. But in spite of the fact that tracts of the country are barren, much of the Punjab is under cultivation and irrigation, yielding excellent crops, which include indigo, grain, cotton, opium, tea, and tobacco. One of the most important agricultural districts in the province is that of Lahore, which is well irrigated by the Bari Doab Canal, and Lahore city on the Ravi is the capital of the Punjab and the centre of the railway ramifications of the province. Here Messrs. E. Plomer & Co., wholesale and retail druggists, have their headquarters. The business was originally a branch of Peake, Allen & Co., and was acquired by the present chief proprietor, Mr. Tom Bliss, in 1877, and has since been carried on under the present firm-name. It is a typical Indian drug-business, and is housed in splendid premises which give ample room for the principal departments of which it consists—viz, (1) retail and dispensing, (2) the wholesale,

retail transactions. The firm have not been slow to establish those profitable side-lines which a well-to-do community are willing to patronise, and the sale of photographic apparatus and chemicals has become a very large item with the firm. We had a chat with Mr. Bliss during his recent visit home, and then confirmed some details of his career



MR. TOM BLISS.

which we had gathered from a correspondent in India. Mr. Bliss was born in Darnaway, Morayshire, and after the thorough parish-school education which they gave in Scotland about the middle of last century he was apprenticed to the drug-trade with a chemist in Nairn. He then, in 1863, started on a voyage to Calcutta to seek his fortune. Like many another North Country lad, he worked his way out as one of the crew. After a four months' voyage he arrived at Calcutta, and soon obtained a post as an assistant with Messrs. R. Scott Thomson & Co., with whom he remained until 1869. In the following year he went to Simla as an assistant to Messrs. E. Plomer & Co., who were then one of two pharmaceutical firms in the hill station, Messrs. Symes & Co. being the other. The Plomer business had been founded on the ruins of the Punjab Trading Company (formerly Peake, Allen & Co.) by Mr. Ebenezer Plomer and Mr. Samuel Fitz, and was carried on by them under the above firm-name. After four years' experience of the business, Mr. Bliss took it over and continued it under the same name. The Simla season appeared not to provide sufficient scope for his energies, and accordingly, in 1877, he bought the Lahore business, which at the time was owned by Mr. R. Richardson, who had bought it when the Punjab Trading Company was wound up in 1869. The premises at Simla as well as at Lahore are amongst the best of the kind in India, and occupy excellent positions in the trading-parts of the town. At the Simla establishment



MILNE'S STORE IN QUETTA.

and (3) aerated-water manufacturing. In the first of these departments European assistants control, as is customary in India, the work of native compounding, and carry on the

aerated-water manufacture is also a big thing, and Mr. Bliss keeps pace with the times in regard to machinery, filters, and other requisites for good waters. As is usual in India, the

waters are put up in 14-oz. bottles, soda-water selling at from 8a. to 12a. per dozen. The Simla establishment is the headquarters in the district for the goods of Messrs. Cutler, Palmer & Co., wine-merchants, for whom E. Plomer & Co. are agents. The firm employ half-a-dozen English assistants besides native compounders, and from twenty to thirty other native employes. In 1899 Mr. Bliss admitted into partnership his assistant, Mr. William Cotton, and is thus enabled to come home frequently—indeed, he has not spent a summer on the plains of India since 1870. He is by no means the grand old man of Indian pharmacy, yet the fact that this year he completes thirty-nine years' residence out there is notable, for it is difficult to realise when talking with him that he has been so long away from his native air. He is as energetic physically as he has been enterprising in business. Naturally, during such a long residence, he has become well known to Government servants and military men in the Punjab, and he has done many a good turn in his quiet modest way that has earned him the thanks of the Anglo-Indian community.

WM. C. KIDD.

Four years after he had passed the Major examination Mr. William Champley Kidd went out to Lucknow as an assistant, and, after thirteen years' experience of the trade of the city, he in 1893 started in business for himself in these premises:—



THE ENGLISH PHARMACY, LUCKNOW.

Here he has established a good-class retail and dispensing business, and more recently has added photographic sundries, in which he has done very well. He has also a fair share of the wholesale trade of the district.

CHARLES J. MILNE.

Milne's drug and general store in Quetta takes us beyond the scope of our map fully 250 miles as the crow flies in a straight line north of Karachi. Quetta is in Baluchistan, and is a fortified British garrison-town commanding the Bolan Pass. There Mr. Charles J. Milne, chemist and druggist, pitched his tent in 1889. It is a commodious tent, and some idea of the range of goods carried is denoted by the fact that, besides dispensing prescriptions as well as he did when he was with Messrs. Duncan, Flockhart & Co., and giving you a bottle of soda fresh sparkling from his own factory, it is Mr. Milne's peculiar boast that he imports direct from England drugs and chemicals, photographic chemicals and apparatus, dispensing-requisites, druggists' sundries, surgical instruments and appliances, tabloids of compressed drugs, homoeopathic medicines, patent medicines veterinary medicines, disinfectant, toilet and nursery requisites, toilet and medicated soaps, perfumery, stationery, saddlery, smokers' requisites, pipes, cigars, tobacco, and cigarettes, electro-plated ware, enamel and tin ware, cutlery and glassware, presentation articles and household requisites, fancy and miscellaneous goods, also oilman's stores and provisions.

Mr. Milne is "frae Aberdeen awa'." He served his apprenticeship in the Granite City with Mr. D. W. Mackay, chemist and druggist, after which he was an assistant for nearly two years in Messrs. Duncan, Flockhart & Co.'s Prince's Street pharmacy. From there he went to Messrs. Bathgate & Co., of Calcutta, and remained with them five years, having charge of their Park Street branch. He then went to Mr. J. L. Lyell (afterwards Lyell & Co., Limited), Allahabad, as manager of the drug department, for six years, after which he went to Quetta and started business on his own account. Even in that far-away place Mr. Milne finds competition keen, in this instance the bazaars being the aggressive parties, and they, it has been said, will sell a caseful of stuff at no profit except the wooden case which holds the goods.

J. B. FORSTER & CO.

We now take a trip right away south to the cardamom-territory—Mysore—where, in Bangalore, Mr. J. B. Forster has been in business for eight years. Before that he had nearly five years' experience of Anglo-Indian pharmacy, having in 1888 joined Messrs. W. E. Smith & Co.'s staff in Madras. He managed their Bangalore branch for three



FORSTER'S PHARMACY IN BANGALORE.

years of the time. He started for himself in a small place in April, 1893, and removed to the present premises in 1895, the business having rapidly grown. Mr. W. G. Paddock, chemist and druggist, then joined him in partnership. The business-premises are fitted up with electric light, and the mineral-water factory is quite up to date as regards machinery and fittings which are of the most improved kind. The hall of the retail premises (shown in the next



THE HALL OF FORSTER'S PHARMACY IN BANGALORE.

picture) is splendidly fitted, the display of goods in the glass cases being a feature of the establishment. There are good arrangements for dispensing, and ample trained assistance. The main hall measures 80 feet by 40 feet. The dental surgery is a later addition to the business, and is in charge of a qualified dentist. The firm specialise in several directions, particularly in the manufacture of soluble phenol and pineoline disinfectants.

Saffron.

By JOHN MULLETT.

FEW drugs can boast so extraordinary a career as saffron has had; it has not only changed its nationality, but it has also altered in character as well as in its uses. Although known to the ancients, it was at one period of the Christian era essentially English, but it has lost all its birthright, and has for many years been an article of import only. At one time looked upon in England as a specific in certain maladies, and as an important component in many medicines, it is now almost excluded from English pharmaceutical preparations. It has also experienced in a remarkable degree the attention of the adulterator.

Crocus sativus, from which saffron is gathered, was formerly grown to advantage in this country. Saffron Walden, in Essex, and Saffron Hill, in Holborn, are said to have taken their names from it having been grown in large quantities in both places. It found favour as a culinary adjunct in the food of the wealthy classes, and it is still very generally used in cakes throughout the West of England. Saffron was also known to the Greeks and Romans; it is doubtless the "karcom" of the Hebrews referred to in the Song of Solomon, iv. 14, and is still generally used at the present time in soups by the Jews.

As now grown in Spain and France, the bulbs are planted in rows about 6 inches apart, and 3 inches between the bulbs, in the month of July, and the crop is collected in September, dried and ready for market in October. Only the three yellow-red stamens and part of the style are collected. The yield of an acre is but 2 lbs. the first year; this may, however, increase to ten times that quantity during the second and third years, after which the bulbs are taken up and planted *de novo*.

The price of saffron on the London market has during the last fifty years ranged in first hands from 18s. to about 68s. per lb., and is at the present time 26s. per lb., although in 1889 it stood at about the highest figure.

The various forms of adulteration to which saffron has been subjected are most remarkable. The very first shipments which came to hand from Spain were "caked" by means of an admixture of honey, but this was probably a measure of precaution in transporting so valuable an article, and was afterwards abolished. Perhaps the earliest actual adulteration was that emanating from France, and introduced about the middle of the last century, when the stamens were covered with a preparation of barytes. To such an extent was this effected that sometimes 1 lb. of such "Alicante" saffron could be packed into a tin of about 4 inches cube, whereas a like quantity of pure saffron requires a tin of at least double that capacity. At that period such adulterated qualities were shipped in large quantities to native merchants in Calcutta and Bombay, and by them sold, it was supposed, for purposes of worship in native temples, where, being burnt, the adulteration mattered little. Besides such treatment, saffron has been often mixed with other vegetable or floral matter, such as dyed esparto-grass, the hairy root of the leek, marigold flowers, &c., all forms of adulteration being invariably classed as "Alicante," which term is still always used to indicate a cheap or impure quality, although as a matter of fact the finest qualities of pure saffron are grown round about the Alicante district of Spain. The latest form of adulteration, and perhaps the most elegant yet introduced, is accomplished by means, it is said, of a preparation of potash, with which the saffron is dressed or saturated, and then slowly dried, it being increased in weight thereby according to the amount of treatment rendered. Such qualities, when moderately dressed, give good clear solutions, but are unable to pass the present low ash-test. As to the adulteration of saffron, much may be said condemnatory of the practice, though to a certain extent there are arguments which may be brought forward in favour of it. Thus, when prices rule very high, the free use of such a valuable colouring-matter amongst employes incurs considerable risk of pilfering, for unfortunately even with drugs, no less than with jewellery, the "receiver" is ever extant to forward or promote the cause of dishonesty, and a manufacturer may therefore feel more secure in working from a mixed article of lower value, provided, of course,

adequate results are obtained, especially as for dyeing-purposes large quantities are used. In 1870 a "receiver" of stolen saffron came to a sad end. A large quantity had been stolen from a public warehouse in the City of London, whence it was taken away in big brown-paper bags. For days the detectives were engaged in endeavouring to trace the stolen goods, and at length one of them, in passing along the Hackney Road, discovered some "red-looking stuff" on the steps leading down to the basement of one of the houses there, where, sure enough, the police found the saffron, at the home of the receiver, who was at once arrested and conveyed to the police-station. On arriving there he pleaded hunger, and was allowed to have a chop, and he availed himself of the knife supplied therewith to commit suicide.

The tests for saffron are the tinctorial power of solutions and the burning or "ash test"; but the best of all tests is that of experience on the part of the buyer. Some time ago a witness in a trial concerning some essential oil said, with regard to the article in question, that the best test was a "thirty-five-year-old nose," meaning, of course, a nasal organ which had had thirty-five years' experience. Equally so is it with saffron, but with this difference, that it requires also the experience of eyes and hands as well.

The ash-test in itself is a hollow farce. Take, for instance, a poor thin semi-wild quality of saffron with much yellow in the stamen, and it will probably give an excellent ash result, perhaps not over 4 per cent.; while a fine bold quality, which may have been dressed to a very moderate extent, will be outclassed by yielding over than the B.P. maximum 7 per cent.; and yet in dyeing power the latter will be considerably richer than the former. As a rule, it is the very finest qualities which receive the attention of the dresser, while, on the other hand, the very commonest saffrons may give the lowest ash yield. Again, a saffron mixed with other vegetable or floral matter may pass the ash-test most creditably, though adulterated to a considerable extent. Thus the ash-test is of little use to the buyer of saffron unless he has experience as well to help him. In the judging of saffron technical knowledge is excellent, but practical experience is excellent also. It is quite possible for the young and perhaps over-educated chemist to take days to discover the full character of a sample submitted, which the old grey-headed experienced counterman would most accurately define in a few minutes.

Newly collected or new-crop saffron is always of a bright colour, which gradually decreases with age, and absolutely pure qualities become exceedingly dry with long keeping. It is claimed for the slightly dressed qualities that they maintain their pristine freshness longer, and are also not so liable to become abnormally dry in keeping. Having regard to its varied uses, it more than ever behoves the saffron-buyer to discover the quality best suited to his particular purpose, and to use his own means of making sure that he obtains it.

Shop-hints.

THERE are several methods of cleansing very dirty bottles—viz., put a handful of coal slack into the bottle, half fill with water and shake. Shot may be used instead of slack, or small parings of raw potatoes.

Coarse brown paper torn up small is a very good thing for cleaning dirty shop-rounds. Place in the bottle, add water and $\frac{1}{2}$ oz. of liquor potassæ, and shake well.

To clean a measure which smells persistently of an essential oil, place it under the tap and allow a stream of water to flow into it for ten or fifteen minutes.

To make gummed labels adhere to the lids of bronzed-tin ointment-boxes, rub a little Friar's balsam on the surface and let it dry before attaching the labels.

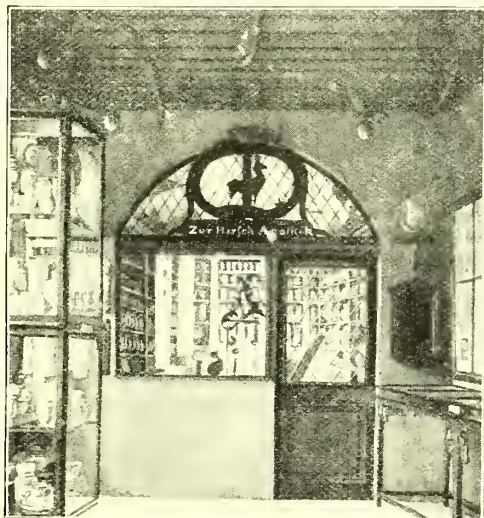
To get a cork out of the interior of a bottle, take a piece of stiff cord, double it in a loop, push the loop well into the bottle, turn the latter so that the cork shall fall against the opening of the neck, then catch it in the loop and pull.

To remove a label from a skin-capped bottle without soiling the cap, cut a slip of blotting-paper rather larger than the label, wet it with water, place it on the label, and after a few minutes the latter can be readily removed.

The Pharmaceutical Museum at Nuremberg.

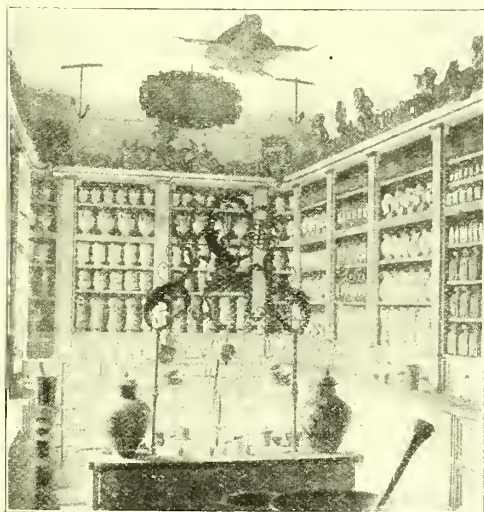
By A. C. WOOTTON.

THIS remarkable collection, representing the history of pharmacy, has been referred to several times in past volumes of THE CHEMIST AND DRUGGIST, but it is so unique and full of interest that nothing short of a much more detailed description than is at present available can satisfy students. The collection forms a section of the



THE ANCIENT PHARMACY (as seen from the Corridor).

National Germanic Museum in Nuremberg, and carefully compiled catalogues of some of the departments of that institution are already in print. We have recently been informed that an official catalogue of the Pharmaceutical



THE ANCIENT PHARMACY (interior view).

Section is in course of preparation, and if it is as complete as those already published it will be of great value; but the Director of the Museum declines to commit himself to the promise of any date, even with a year's margin, for the publication of the anticipated treatise.

The library of old alchemical and galenical books and manuscripts comprised in this section is of priceless value, but the ordinary visitor can only see so much of these as can be exhibited in glass cases. The documents, however, it may be hoped, will be freely quoted from in the coming catalogue. The earliest on view is an illuminated manuscript from some monastery, dated 1473. Subjoined is a sample of the manuscripts. It is a copy of a certificate of Theriacum, dated MDCLXXVI. Die xxv. mensis Maii:—

Viri Magnates, et quibus Respublica Medica et eius splendor cara sunt, in primis debent curare Theriaci compositionem et prisca illius seculi ornamenta fonere et producere, in huius et futuri seculi usum. Inter cetera autem, quae Theriacae compositionem ingrediuntur viperini Pastilli primas sibi vendicant. Hos vero, quos una parte ornat icon Sancti Caroli et nomē Hieronymi Patanini Pharmacopolae Inclytae ac Illustrio Polonorum Nationis. Perfectos, et ex Montibus Eujaneis, Nos Medici Patinini qui eorum confectioni adstitimus, approbamus et commendamus. Qua propter ut videant cuncti et excipiant, libentur testamur et subscribamus.

Four signatures of doctors are appended, and below these appears the portrait of H. Z. Patanini, the maker of the Theriacum, while the margin of the certificate is beautifully decorated with portraits of Hippocrates, Galen, Andromachus, and Avicenna.

The old pharmacy, which is fitted up with a selection of vessels of various colours, shapes, and wares, occupies the end of a corridor and faces the visitor, as shown in our first picture. The second gives a better idea of the interior. Hanging from the ceiling between the two anchors is a sign bearing the appended advice to the apprentice, in Old German:—

Stell jedes an den Ort
Wohin sich fuglich schukt
Und siehe fleissig zu
Das is nicht werd verruckt.

The labels on the jars, bottles, and drawers are of particular interest. The following are copied from the drawers:—

Spod. Fossil.	Sem. Buniad.	Sem. Cicer. Rub.
Cerat. Hernio	Aes. Ustum	Bezoar Occid.
Bolus Alb.	Cannul Clyst.	Sem. Mummul.
Sem. Violar.	Sem. Asparag.	Lign. Lentisc.
Rad. Palm. Chr.	Rad. Dentar.	Succ. Virid.
Rad. Hemodact.	Emp. Tagemah.	Herb. Antyrhr.

In the corridor is a field-pharmacy which is said to have accompanied the Nuremberg contingent in the campaign of 1683, when the Germans and Poles drove the Turkish invaders from Vienna. This is a fine piece of unpolished cabinet-work, and it is a little difficult to accept the assurance on



CORNER OF THE STOCK-ROOM (Material Kammer).

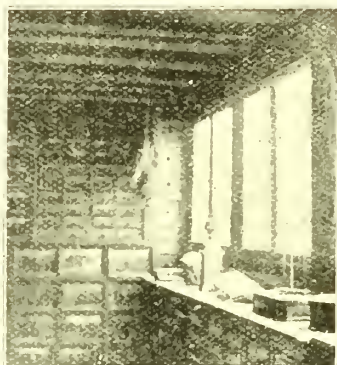
The figure is in painted wood, and represents Mithridates.



CORNER OF THE LABORATORY.

Most of the apparatus is what was used by the alchemists.

the museum ticket that it actually went through a war. It might have come straight from Maw's. The contents must have represented the most luxurious pharmacy of the



CORNER OF THE HERB-ROOM.

The drawers are from the seventeenth century. A half-faded landscape is painted on each.

time. There was the Theriaca Andromachi and the Theriaca Diatessaron; the confectio of Mithridates, elaterium, an elixir de succo rosar, and an elixir vitæ Arnoldi de Villa Nova; a pulvis epilepticus, a preparation of Oriental pearls, and one of crabs' eyes; bezoar, oil of mastic, essence of sugar, and many more remedies, the names of which are now mysterious. The Burdett-Coutses of the time could hardly have found fault with the pharmaceutical provision for that army, if such physic as this cabinet contained was indeed meant for the ordinary "Tommies."

The laboratory, the stock-room, and the herb-room, corners of which are shown in the photographs, are all replete with interest, but we await the publication of the official description before commenting on them in detail.

Collodion of Belladonna, B.P.C.

(*Emplestrum Belladonna Fluidum.*)

Alcoholic extract of belladonna leaf a quantity containing 44 gr. of the alkaloids
Alcohol (90-per-cent.) a sufficiency

Dissolve the extract in 9 fl. oz. of the alcohol, then add—

Purified ether (sp. gr. 0.72) ... 9 fl. oz.

Mix, set aside for twelve hours, decant, and dissolve in the mixture—

Camphor 130 gr.

Pyroxilin ½ oz.

Then add—

Alcohol (90-per cent.) in equal volumes, sufficient to

Purified ether... } produce 1 pint

Copaiba Jelly.

Spermaceti 5ij.

Copaiba 3x.

Melt the spermaceti in a 1-lb. jar placed in hot water. Add the copaiba gradually, stirring all the time until the mixture is clear, and allow to cool as the water-bath grows cold.

Chilblain-powder.

Flowers of camphor... 5j.

Morphine hydrochloride gr. v.

Sifted starch 5ij.

Mix well, and sift through a very fine sieve.

This powder is to be sprinkled in woollen gloves to prevent frost-bite in excessively cold weather.

Concentrated Toning-bath.

Gold chloride gr. xv.

Ammonium sulphocyanide... ... gr. cxxv.

Water to 5ij 5vj.

Dissolve the gold chloride in 15 dr. of water, neutralise with a little chalk, and filter. Dissolve the ammonium sulphocyanide in 1½ oz. of water and add to the gold solution, making up the bulk to 5ij. 5vj. Shake the bottle. To make a toning-bath add 4 dr. to 15½ oz. of water.

Pharmacy-signs.

THE sign, to the mind of the modern Englishman, is inevitably associated with the public-house—the swinging board over the door of the country inn, with the weather-beaten portrait of the Iron Duke or the faded heraldic blazonry of the Red Lion or Blue Boar. Do not the very names of the "Cock," the "Black Bull," or the "Cheshire Cheese" suggest liquid or solid refreshment to the average Londoner? We are apt to forget that this is merely a special survival of a general custom; that in "the spacious days of good Queen Bess"—nay, as late as the golden epoch of good Queen Anne—the sign hung over the door of nearly every shop, useful (like the armorial bearings of sovereigns, knights, and bishops) in times when the mass of the populace were unable to read the name of the proprietor or the announcement of wares offered for sale.

Evidently with the spread of education these pictorial or sculptured distinctions were doomed to disappear. It would probably be a difficult task to find half-a-dozen pharmacy-signs in the streets of modern London. In the Guildhall Museum a "Pill," carved in stone, that once adorned the frontage of a well-known drug-firm, is still preserved; and Corbyn & Co. still possess a bas-relief of the "Bell and Dragon" in their Holborn establishment. The "Rhinoceros" or "Unicorn"—doubtless an allusion to the medicinal virtues supposed to have been possessed by the unicorn-horn—still figures over the entrance to Apothecaries' Hall, Blackfriars, with Apollo (god of healing) in the shield below.

But these are the exceptions that prove the rule. The signs of the London apothecary of the Middle Ages or of Stuart days are gone. But the diligent student of ancient newspapers may occasionally find in their advertisement-columns some quaint name of an apothecary's shop, such as the Dragon and the Golden Mortar, and readers of "Pepys's Diary" may recollect the name of Mr. Wm. Potts, the apothecary who lived "at the Elephant and Castle, near St. Antholin's Church, in Queen Street, London," not a great way from the C. & D. premises.

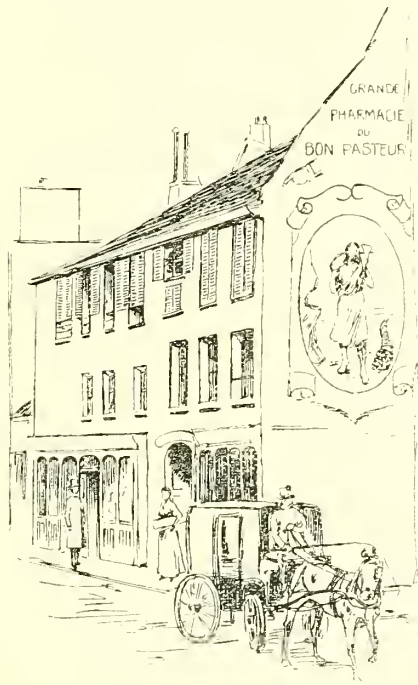
In foreign countries the practice dies harder, and many signs may yet be noticed over chemists' and druggists' shops by the careful and ubiquitous observer. Amongst French towns

PARIS

(the last place where the uninitiated would look for anything ancient, and yet a very world of interest to the student of bygone days) affords a small but most interesting selection. In the rue des Lombards, always the great centre of the wholesale drug-trade, there is a series which is specially remarkable. Here, cheek by jowl, are the "Image of St. Peter," brilliant in oils; "Our Lady of Victories," gilt and resplendent in her niche; the "Golden Pestle," the "Golden Mortar" over the entrances of two pushing pharmacies; the "Grande Monarque," with its gilt sun emblematical of the glory of Louis XIV.; and last, not least, the "Golden Beard," where Pierre Pomet, the seventeenth-century apothecary, wrote the famous work on drugs so frequently quoted by Hanbury and other authors. The construction of the Boulevard Sebastopol some forty or fifty years ago entailed the demolition of a large portion of the rue des Lombards. Previous to this epoch the signs were much more numerous and interesting. Close by, in the rue St.-Denis, are two more pharmacies, respectively bearing the signs of the "Sphinx" and the "Silver Mortar." I may here note that the "Golden Mortar" was among the most popular designations of pharmacies in days gone by, and may be found in several old towns in France and Belgium, and possibly elsewhere. In fact, the pharmacist put out a golden mortar as naturally as a cutler would display a large pair of gilt scissors, the barber his basin or his pole, or the French wayside tavern its bush.

The "Pharmacy of the Good Shepherd" is in the rue des Francs-Bourgeois, quite close to the Paris Municipal Bacteriological Laboratory, recently described in these columns. The quaint painting on the wall is, we believe, unique in its way, and is doomed to disappear with the wideuing of the street. Not far away the "Good Samaritan" was, until a year or two ago, depicted on the first-floor front of the corner

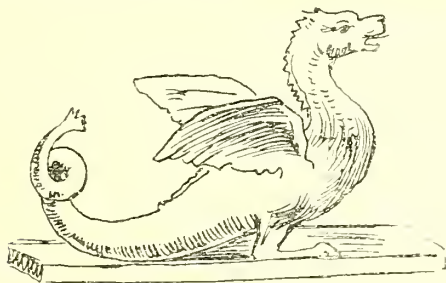
of the rue de la Poterie—a most appropriate sign in Paris, where the victim of a street-accident or crime is always conveyed to the nearest pharmacy. The opportunities of



PHARMACY OF THE GOOD SHEPHERD.

sketching these pharmacy-signs daily become fewer, so quickly are they disappearing.

Where, for instance, are the "Polygone" pharmacy in the rue du Four-St.-Germain, the "Belle Athénienne" perfume-store on the rue St.-Honoré, the "Dame-Jeanne" of the chemical-warehouse in the rue Boucherat?—all three noted by the great novelist Balzac in his curious and little-known work on the "Signs of Paris." (A modern and most interesting work on the same subject pays but scanty attention to pharmacy-signs.) Where is the "Lamprey on the Grill," where a register was kept of vacant situations for pharmacy-assistants a couple of centuries ago, in the rue de la Huchette; the "Page du Roy," where M. Allary sold his "febrifuge" tablets and purgative-syrup for the bile, on the quai des Augustins; the "Devisé Royale" on the quai de Nesle, where spirit of wine was sold wholesale; the sign of the "Provident" in the rue St.-Denis, where a pomade could be obtained "which repaired all the defaults of the skin and gave a great freshness of complexion"—four signs mentioned in Nicolas de Blegny's curious "Livre Commode" of 1692? "Eheu fugaces!" "Delinda est Carthago," "Hinc illæ lachrymæ"—all my Minor Latin would not suffice to find a suitable quotation.

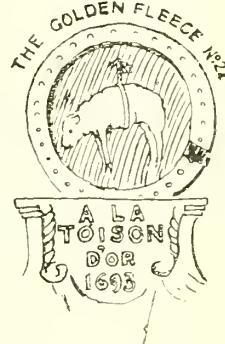


THE DRAGON

Modern pharmacy-signs are not unknown in central modern Paris; we may cite M. Jolivet's heraldic dragon at 114 Faubourg St.-Honoré, and the apothecary of the middle

ages which figures over the corner of M. Delouche's pharmacy in the rue St.-Honoré at the angle of the rue Castiglione.

A herbalist's in the rue Bourg-Thibourg, near the Hôtel de Ville, still bears the sign "St. John's Palm-tree" ("au Palmier St.-Jean"), while the "Olive-tree" of an olive-shop in the rue de Rivoli, and the "Grand Siphon" of a wineshop at the Gare St.-Lazare will not fail to strike the eye of the passing pharmacist in Paris. The "Civet" is a common sign for Parisian and provincial tobacco-shops, and the "Cork Oak" is the trade-mark of a merchant who makes a speciality of chemists' corks. The proprietor of the "Bourdon St.-Jacques" in the rue St.-Honoré found it convenient to change the name of his pharmacy to the "Bourdon d'Or" at the time of the Revolution, when saints, like kings, were proscribed alike by law and public sentiment. But the old house still exists, and a business in proprietary medicines is still carried on behind the quaint old frontage with its ornaments of pilgrims' staves ("bourdons"). By the way, the "Bourdon St.-Jacques" is an old popular name for the rose-mallow, and as mallow was one of the mainstays of old French pharmacy, the name might have had a double signification. A gilt "Panier Fleuri" figures over the door of Pinaud's new perfumery premises in the place Vendôme, and Gosnell's "Cherry-blossom" branch on the Grand Boulevard may be cited as an English specimen of the French habit of making the name or sign more conspicuous than the actual name of the proprietor.



FRENCH PROVINCIAL TOWNS

vary curiously in the matter of pharmacy-signs. In many quite ancient towns not one is left; on the contrary, one sometimes has a remarkable find in the little back streets of some bustling city. The faded painting of the "Two Palm-trees" above the door of a corner pharmacy in the rue Jeanne-d'Arc, one of the main streets of Rouen, may be familiar to some of our readers. The palm-tree, encircled by a serpent, it may be noted, forms the arms of the Paris School of Pharmacy. The "Solar Spectrum" may be noticed as the sign of a chemical, drug, and varnish warehouse in the rue de la République at Rouen. At Trouville, the fashionable Norman seaside resort, the tourist or "baigneur" afflicted with toothache can hardly fail to be attracted by the "Golden Molar" on the quay, which is the outward and visible sign of a Belgian dentist's anxiety to relieve his suffering fellow-creatures. The "Stag" is a popular sign for cutlers' shops in the centre of France, but the connection of the "antlered monarch of the herd" with pharmacy did not strike me just at first when I saw its gilded form over a pharmacy-front at Villefranche (Rhône). It should not be forgotten, however, that wonderful virtues were ascribed to different parts of the animal's body in bygone days; French and German authorities, two hundred years ago, said it was "all antidote." I may, however, add that the Bourbon family who formerly ruled Villefranche bore stags on their arms. There is also a "Falcon" pharmacy at Villefranche, but there is no sign.

The "Geneva Cross" is a popular sign for French pharmacies, as well as for shops where bandages or surgical instruments are sold. At Nantes, M. Martin keeps a pharmacy in the rue Basse-Grande, at the sign of the "Holy Cross," a name which should appeal to Bretons, ever a pious folk. The holy cross in question is simply a red Geneva cross on a white ground, depicted on a metal sheet hanging out from the first floor balcony. M. Raymond Four, whom our readers will remember as the pharmacist who figured so painfully in a recent assassination case at Nancy, kept the Droguerie Pharmacie Lorraine in a bustling street of that pretty frontier city, and had the "Cross of Lorraine" conspicuously painted in the centre of his shop-front. (It was white, by the way; while Macaulay, in his ballad, speaks of "the cornet white with crosses black, the flag of false Lorraine." Perhaps some of our heraldic readers can tell us whether M. Four or Macaulay was right.)

At Nancy, too, M. Poulet has just hung out a new and artistic sign, which appears to represent a chameleon surmounting a lantern-bracket of original design.

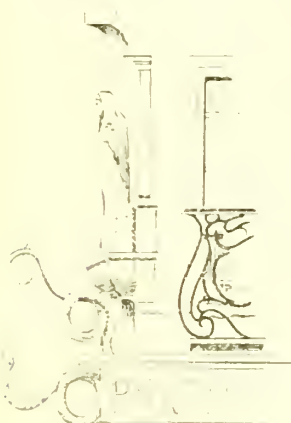
M. Lemaitre's pharmacy-sign at Dieppe also deserves notice; it is considered by some to be the handsomest in France. It was described in the *C. & D.*, March 9, 1901.

The "Cast-iron Mortar" is the name of an old pharmacy in the rue d'Orléans, Nantes, but the sign itself has disappeared.

But outside the rue des Lombards, the most interesting street of pharmaceutical signs in France is the curious collection in the rue Lanterne at Lyons, mentioned in the *C. & D.* some years ago under the title of

"A PHARMACEUTICAL MENAGERIE."

Here the "Serpent" writhes outside the corner pharmacy, and seems to hiss defiance at the "Elephant"—a rival



THE POLAR BEAR.



DROGUERIE

establishment—just opposite, where three or four beasts with castellated howdahs (suggestive of the well-known sign the "Elephant and Castle") adorn the window. The "Unicorn's Head," further on, is a clever piece of sculpture, though probably only dating from the nineteenth century. The "Dragon" and the "Antelope" are wholesale drug-houses; the "Lion" and the "Polar Bear" modern retail pharmacies; the last-named is in the rue Longue, a side street. The "Siren" is only a few doors off. The "Black Bear," the "Centaur," and the "Fox" have disappeared, but many Lyons pharmacists can remember their existence in this curious street.

This quarter of Lyons, like the rue des Lombards in Paris, has been for centuries a centre for the drug and allied trades. In Barbe's "Parfumeur François" (1701 edition) he mentions the Sieur Orlandy, who sold toilet-soap in the rue Longue, at Lyons.

OVER THE FRENCH FRONTIER,

in Metz and Luxemburg signs seem to be far more common than in France; in fact, they are quite an institution in some towns of Germany. In Luxemburg, for instance, every pharmacy has its sign, from the Hof-Apotheke with its "Golden Eagle" with outstretched wings, to Herr Kuborn's

"Golden Swan" and the mysterious phoenix-like bird over Herr Guzenberger's pharmacy. Just opposite is Herr Klies Kneipp's "Mohren-Apotheke." One of the life-sized painted negroes that flank the entrance is an unmistakable Zulu, with his cowhide shield, assegai, and feathered crest and limbs: his companion, with club and bow, evidently belongs to the same or a neighbouring tribe. At Metz the "Adler-Apotheke," with the usual carved and gilt spread eagle on a bracket on the façade stands in the rue du Palais. Herr Otto's "Elephantin Apotheke," with the patient pachyderm over the door, is near the Market Place, and the "Lion" pharmacy in the Romerstrasse (the main shopping street of the town). At the "Deer" pharmacy ("Pharmacie du Cerf") no actual sign exists.



The "Stern-Apotheke," in the St. Ludwigs-platz, has the "Star" sculptured on each of the stone columns between the windows. The "Eagle" and "Star" pharmacies may be found, I believe, in many German towns. The "Stern-Apotheke," at Nuremberg, claims to have existed as far back as 1551, though it was only removed to its present site in 1723.

IN BELGIUM

a good many signs may be noticed. At Brussels, for instance, the "Three Elephants," the "Chamois," the "Eagle," the "Golden Mortar," &c., can be seen: while the "Tapir" in the rue de Namur is a most artistic bit of wrought-iron work—the beast being supported by a handsome bracket representing various plants used in old-fashioned pharmacy combined with the serpent and cup which are often used to typify the healing art. I doubt not that many others might be noted by any tourist who had the time to stroll round the interesting old towns of this busy little country.

IN ANCIENT ITALY.

In Venice in the sixteenth century two famous pharmacies bore the signs of the "Bear" and the "Phoenix"—this latter sign, as will have been seen by the preceding notes, was ever popular with druggists, and not unworthily figures on the *C. & D.* cover.

IN NORWAY

many ancient pharmacies had signs. Amongst those which, we believe, still exist are the "Swan" at Bergen (founded 1595), one of the same name at Christiania (1628), the "Elephant" at Christiania (1662) and the "Hygieia" at Stavanger (1650).

IN AUSTRIA.

C. & D. readers may remember how the famous Von Waldheim succeeded his father as proprietor of the "Golden Crown" pharmacy. Another well-known face at International Pharmaceutical Congresses, Mr. Anton Altan, keeps the "Aurora" pharmacy at Bucharest (Roumania). Whether these far-off pharmacies actually employ signs, or whether merely the name now exists, I have no means of knowing; the tendency in modern continental shops, now the schoolmaster is abroad, is to replace the painted or carved image by a simple inscription.

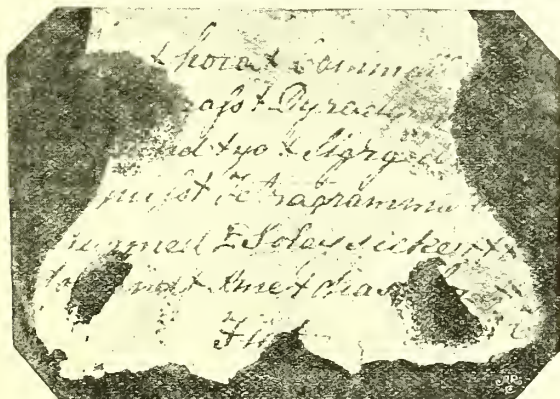
But if these few stray notes—pebbles picked up by the seashore while the great unexplored ocean of Central and Northern Europe lies beyond—should induce any subscribers of the *C. & D.* to collect and communicate notes or sketches of any pharmacy-signs they may meet on their summer holiday outing, they will not have been written in vain.

"IS ANYTHING MORE ABSURD than that it should be insisted upon by the Legislature that prescriptions must be made up by duly-qualified pharmaceutical chemists, while any errand-boy can be employed to stock the bottles?" This is *Modern Society's* wisdom. How happy we should be if the absurdity in the first part were the law as regards all registered chemists and druggists.

An Old Charm. Is it Magic or Medicine?

By C. C. BELL.

THE relations between magic and medicine, formerly so close, have been considerably relaxed by the progress of modern science, and though we occasionally hear of So-and-so's pills having "acted like magic," this may usually be taken for a mere figure of speech. The time has gone by when the word "Abracadabra," written in a triangular arrangement—the word is said to signify the Trinity—and worn round the neck, was supposed to be good against agues. In country places, indeed, the belief in witchcraft still lingers, and the writer of these lines has himself acted more than once as a witch-doctor; has been consulted as to the virtues of wicken-tree and mandrake when worn as charms, and on one occasion has practised exorcism by means of a liberal dose of *haustus niger*; but it is rather startling to an up-to-date pharmacist in a thriving town to have "prescriptions" brought to him, which, upon examination, prove to be magical charms. This, however, has recently happened to Mr. Bernard A. Rogerson, of Bradford, who sends to the office of THE CHEMIST AND DRUGGIST seven small strips of parchment inscribed with cabalistic words, with a request for the interpretation thereof. These strips



were discovered a short time since in an ancient hall near Bradford, and are said to be three hundred years old. They certainly look it, and the inscription they carry (for they are all alike) is doubtless a good deal older. None of the strips can be read through, all being very much defaced by time and weather, but by comparing them it is possible to decipher the whole charm with some degree of certainty—if the qualification is allowable. It reads thus:—

Aon + hora + Cammall + + +
Naadgrass + Dyadgrass + + +
Arassund + yo + Sigrged + + +
dayniss + Tetragrammaton E
Inurmed E Soleysicke + + +
domend + Ame + dias + hora + + M
Fiat.

The key to this gibberish is most probably to be found in the word "Tetragrammaton," a word of great import in magic. It signifies the four letters which, in Hebrew, express the name of God (JHVH), or so, at least, says Dr. Brewer. Among other virtues it was credited with that of preventing bleeding from wounds, &c., and there is a tradition that when the Earl of Gowrie (of the famous conspiracy) was slain at Perth in 1600, this word, written on a piece of parchment, was found on his body, which had, in consequence, lost no blood. The meaning of the inscription, as a whole, it is impossible even to guess at, which is quite in keeping with what is known of such charms. "Ancient or foreign epithets (says a writer in *Chambers's Encyclopædia*) and terms not merely misunderstood, but not understood at all, are often found to have been particularly efficacious, and we find mediæval sorcerers in their formulas using transposed letters and artificial words, the traditional Jewish

names of demons, as Asmodai and the like, and a gibberish of mixed Hebrew and Greek words more or less consciously confused."

That such amulets and incantations were in great vogue all through the middle ages is sufficiently clear from the number of enactments that were made against them, and they were even prescribed by the medical men of those times and by good churchmen. It is true that in many cases their magical character was more or less disguised under the cloak of science or religion, or both, as, for instance, in the following charm, taken from Professor Henslowe's "Medical Works of the Fourteenth Century":—"For ye Goute-cayne [*sayne* = cure]. Take ye rote of ache (*apium graveolens*) and writte ther-on iii wordes + ihs + xt + dominus + and as longe as he [it] be rith on hym aboute his nekke, if he have gode beleve on god, he salte nevere have it more in alle his lyve." Here the root employed, the words Jesus, Christ, Lord, and the crosses (to say nothing of the belief enjoined), would save the conscience of any patient using the charm, which is, nevertheless, evidently as pure a bit of magic as the Bradford amulet. That such things can ever have had effect may seem impossible to us, and yet it is not unlikely that in many nervous disorders they were really of some efficacy. Magic is a real power to those who believe in it; and we need not hold with Burton of the "Anatomy of Melancholy," that there is no virtue at all in "these charms, spells, characters, and barbarous words; but that the divell himself doth use such means to delude them"—a quotation which proves that Burton, too, had some sort of faith in the very things he was attacking. The mere apprehension of harm, the mere expectation of a cure, would of itself give effect to whatever means were employed; and Paracelsus, in his treatise on long life, recommends the use of charms on this very ground. The old proverb "Conceit may kill, and conceit may cure," embodies the same truth; but it still remains difficult to understand how the mere persuasion of safety could be of any use in such a case as the Earl of Gowrie's; and we must suppose that the saner sort of people, even in those days, used some discrimination in their employment of these magical formulas. In the darkest ages of ignorance it was not everybody who believed in pills against earthquake, and we must remember that some people even now carry about a stolen potato as a preventive of rheumatism. Magic can scarcely go further than that. Since the above was written it has been suggested that these slips may after all be purely medical prescriptions, or at least half medical and half magical. The suggestion is due to a suspicion that *Cammall* is an irregular form of *Camomile*, but this is hardly likely. No such form occurs in any glossary that has been consulted, or in the Oxford English Dictionary. *Naadgrass* might similarly be supposed to stand for *Nard grass*, and indicate lavender or valerian, were such a name for either to be found elsewhere, but it has been searched for in vain. The conclusion at present irresistible is that most of the words written upon these slips are arbitrary ones, and the whole inscription a magical charm.

ACCORDING to the report of Mr. Acting Consul-General Rhinde on the trade of Rio de Janeiro in 1900, the value of the drugs, chemicals, &c., imported into Brazil during that period were as follow:—British Empire, 42,271*l.*; United States, 20,488*l.*; Germany, 45,749*l.*; France, 28,295*l.*; Belgium, 16,441*l.*; and Italy, 3,578*l.*

THE WINDOW'S POWER.—I do not believe there is a man living who has not, at some time or other, bought goods which he would not have purchased unless influenced by displays seen in windows. This has been everybody's experience, and shows in a sufficiently clear light the importance of timely and tasteful arrangement.—*Practical Advertising.*

A "LIVER-SHIFTER."—There is a chemist in the neighbourhood of Piccadilly who does not believe in the decline of British trade. All he has to complain of, he says, is the falling-off in the demand for liver-pills. "And if you want to know the reason, sir," he added, "just you take a bus from the corner of Bond Street to the Circus, and see what that'll do for a torpid liver! It's that bit of road, sir, that's ruined my liver-pill connection."—*Globe.*

Lemon, Orange, and Bergamot Oils.

Their Physical Properties.

By G. H. OGSTON & MOORE.

HAVING had the opportunity during the last few years of examining a large number of commercial samples of these essential oils (a number amounting altogether to many hundreds), we think that the publication of the figures obtained may be of interest. We have therefore summarised the results of these numerous observations, and give them in the following tables, together with a few remarks suggested by them. The year has been taken in each instance as beginning with November, that being the time at which the first of the new season's oils are usually obtained.

OIL OF LEMON.

The arrangement adopted in the tables is to give for each year the percentage of the samples examined whose specific gravity or optical rotation lies between the limits given in the first column. To take first the sp. grs., we have the following results:—

Sp. Gr.	1898-1899	1899-1900	1900-1901
	Per cent.	Per cent.	Per cent.
0.855 to 0.856 ...	1.1	8.0	7.4
0.856 „ 0.857 ...	42.9	38.1	52.6
0.857 „ 0.858 ...	47.2	38.8	35.9
0.858 „ 0.859 ...	8.8	14.1	3.5
0.859 „ 0.860 ...	—	0.6	0.3
0.860 „ 0.861 ...	—	0.4	0.3

It is seen that the specific gravities of the vast majority of samples lie between the limits 0.856 and 0.858, though genuine oils are met with showing figures greater or less than these. It is found also that in each year the specific gravities varies regularly according to the time at which the oil is made. This is illustrated in the following table, which gives the percentage of the samples examined during each period, which had a specific gravity less than 0.857:—

—	1898-1899	1899-1900	1900-1901
	Per cent.	Per cent.	Per cent.
November to January...	66.6	70.2	77.7
February to April ...	64.3	47.5	58.7
April to October ...	17.7	12.7	25.3

In each year, therefore, the specific gravity of the oil produced increases as the season goes on.

The next table shows the variation in optical rotation in a similar manner to that given above for specific gravity:—

Year	1898-1899	1899-1900	1900-1901
	Per cent.	Per cent.	Per cent.
Below + 58° ...	8.0	9.0	0.3
From + 58 to 59° ...	8.5	9.0	0.8
„ + 59 to 60° ...	40.1	19.1	5.6
„ + 60 to 61° ...	31.7	24.6	12.0
„ + 61 to 62° ...	9.1	21.9	20.3
„ + 62 to 63° ...	2.1	11.5	25.3
„ + 63 to 64° ...	0.5	3.7	24.0
„ + 64 to 65° ...	—	1.0	9.3
„ + 65 to 66° ...	—	0.2	2.4

The rotations are taken at 15.5° C., in a 100 mm. tube.

The difference between the oils of different years is very

marked, and it is clear that in laying down limits for sp. gr. and optical rotation of pure oils it is necessary to have regard to the general characteristics of the season in which they are produced. A figure which would excite suspicion in one year would be perfectly normal in another. This is a point which will be referred to again in connection with bergamot essence.

A peculiarity to be noted is that *machine-made* essence (produced in Calabria, and not often met with in London) resembles in colour, so closely as to be hardly distinguishable, the machine-made bergamot oil, and has a higher sp. gr. than the ordinary hand made. The few samples of high gravity, 0.859 to 0.861 mentioned in the above tables are samples of this kind. Those having sp. gr. 0.858 to 0.859 come from the Palermo district, the essence from which is, as a rule, heavier than that from the neighbourhood of Messina. In the latter district, taking from Catania on one side to Barcelona on the other the sp. gr. is always included between the limits 0.856 to 0.858.

An abnormal sample was met with, coming from a district of Palermo, which had an optical rotation of only + 52.5°. This would usually indicate adulteration with about 10 per cent. of turpentine, but fractional distillation showed its purity. We afterwards had other samples specially obtained for us which confirmed this result.

The optical rotation of Palermo essence is generally lower than that of Messina, varying from + 58-62°, as compared with + 59-65° for the latter.

OIL OF BERGAMOT.

In this case we have arranged the results in three tables, one for each year, the figures being as before the percentage of the samples examined which had specific gravities lying between the limits given, and, in addition, the average optical rotation and percentage of linalyl acetate in these samples:—

I.—1898-1899.

Sp. Gr.	Per cent. of Samples	Average Lin. Acet.	Average Rotation
		Per cent.	
0.880-0.881	7.4	33.7	+ 16.5°
0.881-0.882	9.3	32.7	+ 13.8°
0.882-0.883	37.0	36.5	+ 14.3°
0.883-0.884	25.9	38.2	+ 13.3°
0.884-0.885	16.7	39.6	+ 13.4°
0.885-0.886	—	—	—
0.886-0.887	3.7	43.7	+ 7.3°

Of the total number of samples, 11 per cent. contained over 40 per cent. linalyl acetate.

II.—YEAR 1899-1900.

Sp. Gr.	Per Cent. of Samples	Average Lin. Acet.	Average Rotation.
		Per cent.	
0.880-0.881	1.0	33.26	+ 16.8°
0.881-0.882	3.2	34.24	+ 14.5°
0.882-0.883	5.5	35.06	+ 13.5°
0.883-0.884	11.7	36.54	+ 12.8°
0.884-0.885	16.5	37.96	+ 11.5°
0.885-0.886	24.7	39.48	+ 11.6°
0.886-0.887	19.0	41.07	+ 10.7°
0.887-0.888	10.9	42.23	+ 10.8°
0.888-0.889	5.5	44.16	+ 8.7°
0.889-0.890	1.6	45.17	+ 7.0°
0.890-	0.4	47.55	+ 6.8°

Of the samples examined during this season 46 per cent. contained over 40 per cent. of linalyl acetate.

III.—YEAR 1900-1901.

Sp. Gr.	Per Cent. of Samples	Average Lin. Acet.	Average Rotation
		Per cent.	
0.877-0.878	1.4	30.56	+23.8°
0.878-0.879	3.4	31.34	+21.4°
0.879-0.880	16.0	32.59	+19.6°
0.880-0.881	20.4	33.95	+17.7°
0.881-0.882	17.3	35.47	+17.3°
0.882-0.883	16.0	36.51	+16.8°
0.883-0.884	7.5	36.95	+14.1°
0.884-0.885	5.4	38.80	+13.7°
0.885-0.886	5.1	39.59	+13.6°
0.886-0.887	3.1	39.76	+11.2°
0.887-0.888	2.7	41.48	+12.08°
0.888-0.889	0.8	43.87	+10.0°
0.889	0.8	44.54	+10.1°

The samples exceeding 40 per cent. linalyl acetate numbered 89 per cent.

A consideration of these figures is of great value in assisting the detection of any adulterant present in bergamot oil. It will be seen that a consistent relation occurs between sp. gr., percentage of linalyl acetate, and optical rotation of pure oils, and any considerable departure from this relation must be regarded as indicating impurity. There is a variety of the oil known as "essence of black bergamot" which is made from a bastard fruit, that is, one which never arrives at maturity. It is characterised by a very high sp. gr. (up to 0.898), and a low percentage of linalyl acetate, and is very dark in colour. These properties cause it to be readily detected when present in ordinary bergamot oil. Distilled essence has a high rotation (exceeding + 20°), and a very low ester-content (2 to 5 per cent.) and sp. gr. (about 0.865).

The very marked difference between the crops of different seasons is clearly seen in these tables. The oil produced during 1899-1900 was of unusually high quality. Nearly half of the large number of samples tested showed a proportion of ester exceeding 40 per cent., and one sample was found as high as 48 per cent. In contrast with this the following season showed less than 9 per cent. of samples exceeding the 40-per-cent. limit. As remarked in the case of lemon oil, it is necessary to take into account the general character of the season when judging of the purity of an oil.

The following figures are of interest, as showing the effect of unusual conditions on the quality of the essence. They refer to samples obtained in the season which has recently commenced, and which have been made from the immature fruit brought down by the recent storms:—

Sp. Gr.	Lin. Acet.	Opt. Rot.
0.8810	30.85	+ 16.3°
0.8820	30.25	+ 13.0°
0.8789	26.70	+ 18.6°
0.8812	30.30	+ 13.3°
0.8825	30.20	+ 14.0°
0.8819	32.25	+ 11.4°
0.8808	30.95	+ 7.0°
0.8815	31.35	+ 13.0°
0.8814	30.7	+ 16.0°
0.8816	32.9	+ 10.4°
0.8833	33.5	+ 8.0°
0.8827	33.9	+ 12.6°
0.8812	28.65	+ 13.6°

These all show considerable variations from the general standards given above.

OIL OF SWEET ORANGE.

The physical properties of this oil show much less variation than do those of the two oils already dealt with. The

sp. gr., in the great majority of cases, lies between 0.848 and 0.850, and the rotation between + 96° and 99°. Of seventy samples examined in the season 1899-1900 only three were found outside these limits, and in the following year six samples were met with, having a somewhat higher sp. gr. between 0.850 and 0.851, but the rotation of all the pure samples was between the figures named.

When distilled at the ordinary pressure the first 10 per cent. of a pure oil will have an optical rotation greater than that of the original essence by at least 1°. Our experience in the past season shows the average rise to have been 1.60° (range, 1.1°-2.5°). Any oil with the optical rotation of the 10-per-cent. distillate showing a rise of less than 1° may be suspected to contain either oil of lemon or the terpenes therefrom. The following results are from the new season's crop:—

Sp. Gr.	Opt. Rot.	Rot. of 10 per-cent. Dist.	Rise
0.84860	+98.75°	+99.95°	1.20°
0.84900	+98.15°	+99.33°	1.18°
0.84955	+98.30°	+99.50°	1.20°
0.84905	+98.75°	+99.90°	1.15°
0.84840	+98.50°	+99.70°	1.20°
0.84845	+98.05°	+99.40°	1.35°
0.84910	+97.40°	+98.70°	1.30°
0.84980	+97.00°	+98.80°	1.80°
0.84920	+98.00°	+99.20°	1.20°
0.84880	+98.70°	+99.80°	1.10°
0.84925	+98.00°	+99.35°	1.35°
0.84960	+98.05°	+99.70°	1.65°
0.84915	+98.70°	+99.90°	1.20°

The next figures are from essences that were found to be impure, and it will be noticed that there is still a rise in the rotation of the distillate.

No.	Sp. Gr.	Opt. Rot.	Rot. of 10-per-cent. Dist.	Rise
1	0.84890	+95.50°	+95.58°	0.08°
2	0.85020	+92.30°	+92.80°	0.5°
3	0.84958	+93.60°	+96.20°	2.6°
4	0.84845	+99.25°	+99.90°	0.65°

No. 4 contained orange terpenes; 1, 2, and 3 lemon oil or terpenes. These figures show that the statement that has been made, that the first 10 per cent. distilled may have a lower rotation than the original oil, is not correct. We have seen it stated that a fall of 5° is possible. Such a figure would certainly indicate adulteration to the extent of at least 30 per cent.

We hope shortly to be able to publish some figures relating to oil of bitter orange and oil of mandarin.

Since writing the above we have received samples of bergamot oil made from the normal fruit, and find the ester-content to vary between 33 and 36 per cent., the specific gravity and rotation corresponding with those given in the tables for previous years. The odour of this year's oil seems to be unusually fine. Referring to what was said with regard to machine-made oil of lemon, it is of interest to note that hand-made oil of bergamot, which also is rarely met with, has a colour scarcely darker than that of lemon oil, and contains only 25 to 30 per cent. linalyl acetate. The specific gravity of course is correspondingly low.

"PHARMACEUTICAL TESTING" (Mr. B. S. Proctor) contains easily-applied tests for ensuring the purity of chemicals for use at the counter. Price 2s. 6d., by post 2s. 9d., from the O. & D. office, 42 Cannon Street, E.C.

Round the Grands Boulevards.

A Parisian Stroll.

THERE are probably few spots on the face of the habitable globe which have been more persistently "written up" than the "Grands Boulevards" of Paris. That celebrated half-mile of thoroughfare, which is the Mecca of every Frenchman and not a few foreigners, has been described and studied from the historical, social, moral, political, literary, artistic, and every other aspect by writers of every nation under heaven.

"But, from a

PHARMACEUTICAL STANDPOINT,

has the boulevard ever been described?" a Parisian friend of mine asked me, knowing my line of business.

"I don't think so," I replied. "Are there any pharmacies on the Grands Boulevards? Not many, I fancy."

"Oh, dozens," he declared, and then shook his head. "Perhaps you are right after all. Rents are high there, you



THE BOULEVARD DE LA MADELEINE,
the commencement of the Grands Boulevards.

know, and even you pharmacist people can't always make profit enough to pay them"

This was the unkindest cut of all, but my friend is not in the trade and holds the outsiders' views as to chemists' profits. I always think it a pity to destroy the gilded illusions of youth, and he ended by making a modest bet of



A CORNER OF THE PLACE DE LA MADELEINE,
showing Pharmacie Virenque.

("Rnnover Crossing," as every Parisian knows, is at the corner of the rue Montmartre).

We met at an American bar at the Madeleine during the afternoon, and he informed me he had already unearthed Pharmacy No. 1. This was M. Virenque's, just next door to the bar in question, in the place de la Madeleine. It is a modest establishment of limited floor space, and of no originality calling for description; but, were it not a little removed from the actual stream of traffic, would be in one of the best positions in Paris.

"The name boulevard or bulwark," remarked my guide (these young fellows will always teach their elders), "indicates the former site of the city walls, and the rue Basse du Rempart evidently occupies the place of the fosse or ditch below." But what interested me more than his somewhat threadbare discourse was

TANRET'S PHARMACY,

which stands at the corner of the street in question. This may be considered one of the "classic houses" of Paris, M. Tanret having made a name for himself by original research. The officine (No. 64 rue Basse du Rempart) is now owned by M. Langlois. "He is, you see, an ex-interne of one of our hospitals," said my friend, pointing to the inscription on the



ONE OF THE PARIS "CLASSIC" PHARMACIES.

front of the shop. "Most of the best pharmacists here have spent a few years in one of the hospitals. A medical 'interne' is a house-surgeon, but a pharmaceutical interne is, of course, exclusively employed in preparing medicaments."

"We have carboys all the world over," I remarked (studying the window), "and that microscope is explained by this notice, 'Chemical analyses executed.' Hippocrates' portrait on the door-jambs is somewhat originally placed, but equally explicable. But why that cat-skin? Does it imply veterinary treatment for poor pussy?"

"Surely you know that is a wild-cat skin," was the reply, "which differs from the fur of the domestic pussy in possessing valuable qualities for the cure of rheumatism. You don't believe it? My grandfather does, and wears them next to his skin. He says he always has an attack of rheumatism if he takes them off."

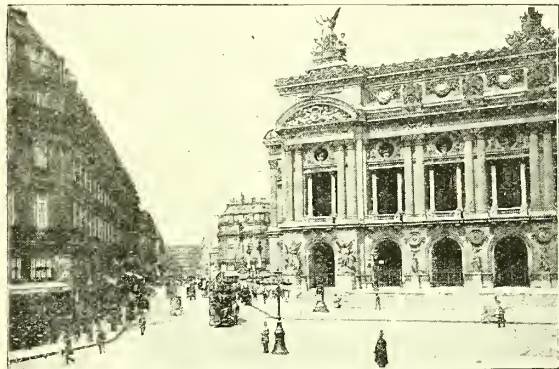
"And this window-blind, with the palm-tree and serpent and digitalis and other medical plants below. Quite a work of art."

"You can buy them by the dozen in the rue St.-Denis at a very moderate figure. This one is the pharmacy blind, the palm-tree and serpent are the arms of the Paris School of Pharmacy. There is a pork-butcher's blind with wild boars in the forest, a baker's blind with the harvest, and so on until further notice."

After leaving Tanret's we noted the new handsomely fitted and bright British-American pharmacy opened not long ago, just off the boulevard at 3 rue Scribe, by Mr. Louis Nathan (formerly with Roberts & Co., Paris), who was one

two absinthes that he would find me a dozen pharmacies between the Madeleine and the Carrefour des Ecrasés.

of the last Englishmen to take his diploma of French pharmacist under the old *régime*, and then "drew blank" for a time, and I fancy my companion saw his bet was practically lost. In addition to the high rent of houses already alluded to, the fact that there are five or six pharmacies in the rue



THE PLACE DE L'OPÉRA,

looking towards the rue Aubert; this spot is the heart of Paris, and the centre of Boulevard life.

de la Paix and its vicinity—the principal English pharmacies of Paris are all in that neighbourhood—account for their absence from this particular part of the boulevard. There are Robert's and Beral's in the rue de la Paix, Hogg's, Swann's and others in or near the rue Castiglione, and these do much to supply the inmates of the Grand Hotel and the endless other cosmopolitan *caravanserai* round this quarter of Paris.

PERFUMERY

was, however, much to the fore in the neighbourhood of the Opéra. Dr. Pierre's dentifrice has a quiet-looking establishment in the place de l'Opéra, and Jones' perfumery is near by on the boulevard; a little further down the boulevard the inscriptions "Parfumerie Anglaise" in French and "Rimmel's Perfumery" in English, call attention to the Paris branch of a well known London house. The arms of half the Royal Courts in Europe are blazoned on the plate-glass front and between the *entresol* windows, and the window-display is tasty and conspicuous. Glancing down the rue de la Paix, one may catch a glimpse of Guerlain's perfumery, and of the establishment of the eau de Botot, while Gellé's and Agnel's are not far from the Opéra in the other direction. Pinaud's head place is in the place Vendôme, but here on the boulevard des Italiens (No. 30) he has a neat little retail branch, where "Marie Louise" and other prettily named and elegantly got-up perfumes make a dainty show. Many were in satin boxes.

"For New Year's gifts. Very nice for ladies, but terrible for us men," sighed my companion. "Ah! if I only had the money I spent on *étrennes*."

I calmed his troubled spirit by telling him of the delightful English custom of Boxing-day, and we crossed to Violet's, the appropriate name of a smart corner perfumery at the angle of the boulevard and the rue de la Michodière.

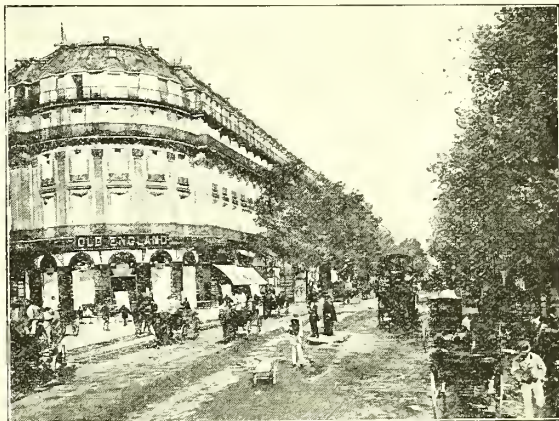
To use a sign or trade-mark instead of a name is a very common practice in Paris. I noticed Pinaud's sign is "The Flower Basket," and Violet's "The Queen Bee." This prolific insect figured neatly gilt on the carving at the back of the window, and a very swarm of the honeyed tribe adorned the door. Curiously enough the next shop I noticed (at the corner of the rue Favart) was the handsome retail dépôt of "Cherry Blossom" perfumery fame, where the same principle of subordinating the maker's own name to a badge or trade-mark is carried out to a still fuller extent. This fine establishment, with its delicate light-green wood-work window and exterior and oak-panelled interior, has a thoroughly English get-up, has long been a feature of the boulevard, but I understand the agency has since been removed to the rue de la Paix.

"But where are the pharmacies?" I asked. He pointed to M. Gras's officine a few doors down the rue Lepeletier, and then we turned down the rue Favart, and (though I

once more protested that this was not the boulevard) I was pleased to have an opportunity of seeing

MIALHE'S PHARMACY,

one of the "classic houses" of Paris. How old it is I know not. I remember seeing in the French "National Almanac" of 1802 that M. Sureau kept a pharmacy in the rue Favart "near the Comédie Italienne." Mialhe was a famous man in French pharmacy in his day, while M. Petit, the present proprietor of the officine, will be familiar to readers of the *C. & D.* in his various aspects as the President of the 1900



THE FASHIONABLE BOULEVARD DES CAPUCINES, showing the store "Old England" and part of the Grand Hôtel

International Pharmacy Congress, for fifteen years Chairman of the General Association of French Pharmacists, as an ex-President of the Paris Society of Pharmacy, as an honorary member of the Pharmaceutical Society of Great Britain and of the British Pharmaceutical Conference, as a large manufacturer of pharmaceuticals, and as Mayor of Viroflay, a little place near Versailles.

Quoting my companion: "M. Petit's varied pursuits reminds me of Schiller's lines—

Denn wo das Strenge mit dem zartem
Wo Starke sich ein mildes parten
Da gibt es einem guten Klang;

for as a chemical-manufacturer he mixes the natural elements into an harmonious whole, and as Mayor he officially unites in the nuptial knot two hearts that beat as one."

MINERAL WATERS.

To turn abruptly from marriage to mineral waters, I ought to have mentioned an interesting establishment (just opposite Violet's perfumery) where only mineral waters are sold. I have seldom seen more different varieties exposed in a single shop-window. Besides Vichy, St. Galmier, Vals, Contrexéville, Alet, Bussang, Salins les Bains, Plombières, and a host of French waters too numerous to mention, there were Hunyadi János and many other foreign names more or less familiar to the average English chemist. The shop, run by a M. Broise, more especially represents the Contrexéville establishment (where the Shah of Persia made a "cure" in 1900, and seems likely to return), but does a large general business.

"The other mineral-water people come and go a good deal," my friend remarked. "The Evian people had a shop on this boulevard not long ago, but transferred it to the rue Favart, and, you see, the Bourboule in that *entresol*—I suppose they have an office there. No; that 'Quinquina Dubonnet' shop opposite has nothing pharmaceutical about it—it is a dépôt for liqueurs and *aperitifs*. Shall we go and take ours?"

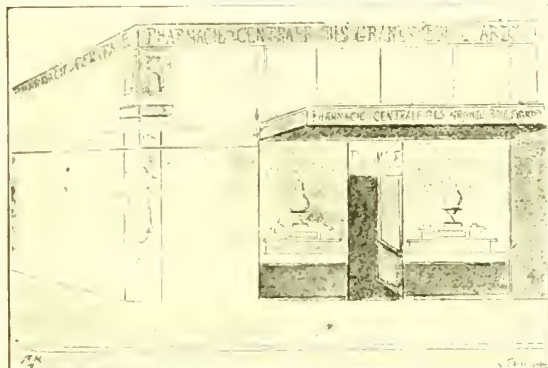
For we had arrived at the rue Montmartre—the Fleet Street of Parisian journalism and

THE CUTTING PHARMACIES

of the rue Montmartre quarter, which now came into view.

The "Central Pharmacy of the Grands Boulevards" announces itself in letters a foot long at the corner of the rue

Montmartre and the boulevard. "Open all night; reduced prices; bandages and sundries; antiseptic dressings; English spoken; se le habla español; uroscopy and lactoscopy (does the Paris milkman understand this semi-Latin-French? Possibly it is done to spare his feelings—'milk-



A PROMINENT CUTTING PHARMACY.

analysis' might be too brutal); *recherche de microbes*"; such are the inscriptions blazoned in white letters on the *entresol* (mezzanine floor) window on the boulevard and on the frontage in the street.

Of window-show the pharmacy is all but innocent; a few books and sundry apparatus are all that is visible: a couple of carboys, a pair of scales, a few cards advertising coca-kola preparations—that is all.

Inside, the same severe simplicity—oak fittings, rows of jars and bottles (a few patents are visible on one side), a book-keeper's desk, a cash-register with lady attendants, and a huge pile of catalogues, a bench for customers, five or six assistants, mostly middle-aged men—the usual style of the modern French commercial pharmacy in a good middle-class quarter.

The "New Century" Pharmacy (it used to be called the "Nineteenth Century" pharmacy, if my informant's memory is correct) is nearly opposite—28 boulevard Montmartre—and is run by M. Picard, a first-class pharmacist. He also announces he keeps open all night, and adds, "Same prices night-time as day-time." The interior of the pharmacy much resembled the one last described, except that the bench is replaced by bent-wood chairs. The advertising matter in front of the shop is, however, of a more decided character. Besides the general announcement of "Very reduced prices," several articles are advertised—"Koff," which is an "African tisane," quinine-wine, mineral waters, and Dr. Humphrey's patent medicines are specially mentioned, as well as a "quadruple wine," which costs 5f. a litre (say, 5s. a quart), and is "vivifying and regenerating."

Urine-analysis with percentage of sugar for half-a-crown would almost seem tautology when placed near the announce-

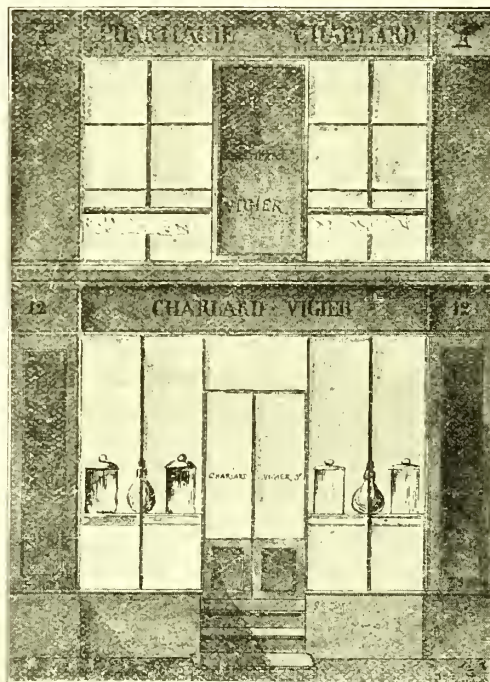
cure even more disagreeable maladies in two days. In fact, it was quite a "star combination" of remedies.

A painting between the two entrance-doors represents a very robust individual at the seaside declaring to a palled invalid that "Quadruple wine is his secret for rejuvenating himself," while a card announcing that "Our wines may be tasted for 3f. a glass" almost persuaded me to enter and remove a few grey hairs and wrinkles at such a low figure. But my younger companion declared that what he required was not so much rejuvenation as temporary rest and refreshment. Installed at the café of our choice, he skilfully prepared the pick-me-up, while I still admired the front of the pharmacy. A couple of carboys *outside* the window on the mezzanine floor form a feature I do not remember to have seen elsewhere, while two lamps (with "Pharmacie" on one side and the Geneva Cross on the other) make the place conspicuous at night.

"Why do these cutting pharmacies abound round this quarter?" I asked. "Are journalists great consumers of medicaments?"

"It is not so much the journalists, perhaps, as the market-people. You see we are in the centre of the business quarter, and only about half a mile or less from the Halles Centrales, which represent your Billingsgate, Leadenhall, Covent Garden, and Smithfield markets combined. Thousands of peasants come there every morning, and the French peasant will walk a mile any day to get a bottle of medicine for sixteen sous instead of twenty. You noticed that one at least of these pharmacies was very quiet in its style, the pushing-trade is done by distributing priced-catalogues. I think it was one of these officines here that was warned or punished not long ago for not using metric terms in its list—you know our peasants still bargain in pounds, &c."

From this we drifted on to talk of a certain medical institute, which was open until lately at No. 19 on this boulevard, and figured in the police-court for illegal practice of pharmacy some time ago. My informant was under the impression that it was run by Englishmen, but as the average Parisian



AN HISTORICAL PHARMACY,
the Pharmacie Charlard-Vigier.

is quite unable to distinguish between an Englishman and an American he gave me the benefit of the doubt. "Do you know," said he, "there was a notice that 'an English doctor attended daily except Sunday' close to announcements like 'Research for gonorrhea bacillus, 20f.' It is just as well



THE PORTE ST.-MARTIN,
an interesting and typical spot on the Boulevards in the
centre of a busy district.

ment, "Diabetes cured by Dr. Charlemagne's anti-diabetic wine and electuary." A santal specific was advertised to

to keep the Fourth Commandment, even if you can't keep the others, isn't it."

I hardly saw the point of the remark till he followed it up by a tale of a cannibal chief, who after his conversion always cooked his victims on Saturday to avoid Sunday cooking. We chatted for half an hour, but, like a true boulevardier, he stoutly refused to come any further. "The real boulevard ends at the Porte St.-Martin," said he, "and you will find just as few pharmacies that way as this."

I decided, however, to continue my route. There was a long gap, for this is the "city" or business quarter of Paris, and tailors, restaurants, and similar establishments predominate. This succession of non-pharmaceutic establishments is only broken by the

PHARMACIE SAVOYE.

4 boulevard Poissonnière, an old-fashioned-looking place painted in black and gold, with two diminutive carboys in each window, and half-a-dozen glass jars containing elixirs, pectoral lozenges, and similar put-up goods. Inside, the old leather-backed chairs keep up the old-fashioned aspect.

The

PHARMACIE CHARLARD-VIGIER,

12 boulevard Bonne Nouvelle, is another of the historical pharmacies of Paris, Charlard having occupied these premises just a century ago. It is now kept by M. Vigier (brother of M. Pierre Vigier, who, curiously enough, keeps another historical pharmacy in the rue du Bac). This place is as old-fashioned-looking as one might expect, with its threshold several steps above the street level, and its brass and mahogany front. M. Vigier evidently believes in putting up his own specialties, and a neat series of dentifrices, infants' food, &c., adorns the window.



THE PLACE DE LA BASTILLE,
the end of the Grands Boulevards.

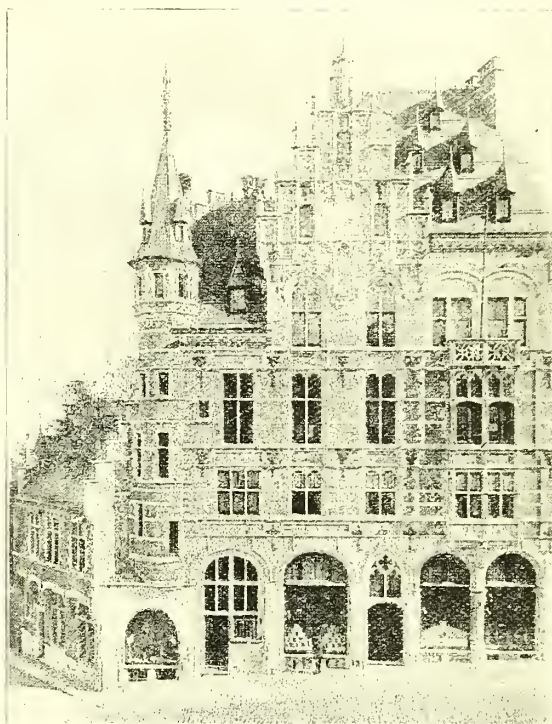
An English Pharmacy in Brussels.

AMONGST the New Year cards which we have received this month are two photographs of the new pharmacy erected by Messrs. Ch. Delacre et Cie. in the rue Coudenberg, Brussels.

"LA PHARMACIE ANGLAIS,"

as it is termed, was founded in 1853 by M. Charles Delacre, and is of world-wide repute. The new building is excellently adapted for the extensive business of the firm. It is in the old Flemish style, the exterior being of the fifteenth and the interior of the seventeenth century. All the fittings and counters are in carved oak, and it will be seen from the photograph of the interior that the style is unique. Particular attention has been paid in the arrangement of the working departments to provide each assistant with a complete dispensing section for himself, so that all work independently of each other. Throughout the pharmacy British Pharmacopœia preparations are denoted by distinctive labels, the Royal Arms of the United Kingdom being placed

on each jar and bottle. The pharmacy is lighted throughout by electricity. Messrs. Delacre et Cie. keep an inter-



LA PHARMACIE ANGLAIS.

national stock, especially of proprietary articles, and their assistants speak English, French, and German, and have



INTERIOR OF LA PHARMACIE ANGLAIS.

personal experience, one or the other, of the pharmacy of the countries which they represent.

ENGAGED.—"First of all," said the druggist to the youthful applicant, "we'll have to test your ability as a whistler. Suppose you try." "I'm sorry, sir," said the boy, "but I can't whistle at all." "Take off your coat," cried the druggist, "you're the boy we're looking for."

DRUGS AND CHEMICALS.—Products to the value of 18,760*l*. and 329,000*l*. respectively were exported from the United Kingdom to Belgium during 1900. From that country we imported last year drugs valued at 94,080*l*., and chemical products (not specified) 169,880*l*. Palm oil and other vegetable oils (not for food) were imported to the extent of 310,960*l*.

Across War Country.

By our Special Correspondent in South Africa.

THE journey from Cape Town to Pretoria is a long, tedious, and particularly uninteresting one. No doubt, had it not been for the uncertainty surrounding the length of time to be occupied on the road, owing to marauding rebels and train-wreckers, it would have proved doubly so. And, remember, the luxury of modern railway-travel has not reached in South Africa a very high pitch as yet; but it is worth the trouble, if only to see what "Tommy" is doing. He rides behind the train in an open truck, and all along the track he has built some splendid block-houses of stone and other material, many of which will remain, unless demolished after the war, for years to come, reminding those who gaze on them of the great Boer War.

If you are fortunate enough to get permission from the military authorities to proceed North on board their mail-train, you leave the Cape Town terminus at 9 o'clock in the evening. On waking up next morning the train will have negotiated the Hex River Pass, and by breakfast-time will have covered barely 200 miles. Telegraph-linesmen were busy repairing the wires that the rebels had pulled down a day or so previous. War it was—or rebellion, or whatever you please to call it—and to war the discussion turned.

Breakfast over, the train gets under way again, and we now enter on our journey across the Karroo. Mountains, sand, and scrubby bush. More mountains, more sand, more bush; a waterless tract of country—a desert. Here and there a few goats and sheep are to be seen picking up a precarious sort of a living by eating the withered, stubby bush, but otherwise there is little to break the dreadful monotony, except "Tommy" and his block-houses, outside which one may notice that measures are being taken to cultivate a few flowers and vegetables. Withal, "Tommy" is humorous in his way. He will go to no end of pains to make an effigy of himself, which he places on the veldt in the vicinity of his fortifications for the Boers to shoot at, and will crown it with the biggest helmet that he can find, on which some such words as "Let 'em all come," or "Ready, always ready," are painted. The notice, "Please throw out papers," appeals to most travellers, and, if you have no literature to throw out, the idea of subscribing towards the fund for the supply of same commends itself; for, after all, it is on the look-out man in the block-house that the safety of the train and its passengers falls.

In the early hours of the morning the second day out, the train had taken an easterly direction. My companion, a small important little man, with a very big moustache, who snored as if the car belonged to him, got pitched out of his sleeping-berth by the sudden stoppage of the train. He grasped his rifle, and with the words "Damn!—it's the Boers," disappeared along the corridors, only to find that the stoppage was occasioned by the engine taking in water from a tank. A rather sheepish look crossed his face when I pointed out to him that he failed to take his ammunition with him.

AT NORVAL'S POINT

the I.M.R. officials take charge of the train, for the frontier is hard by. Passes and permits are collected and endorsed by armed men—quite a new thing in railway travel, say you—and the train is hastened away, for it is not deemed advisable as yet to allow trains to travel at night in the new colonies—mail trains, at any rate—the reason for which is but too well known, although the line is as safe as it will ever be. The bridge over the Orange River—now almost completely restored—is the finest in South Africa, and, as everybody by this time knows, connects by rail the two colonies. A run of about four hours brings you to Bloemfontein. Here you must not, on any account, leave the platform till dinner is ready, and as soon as the repast is finished must return to the cars. It is an offence against martial law to transgress this regulation, and transgressors are severely and promptly dealt with. Martial law is swift to bring retribution—far too swift at times. At the dawn of day an armoured train left northward. It was our escort, and we shortly followed. The country immediately adjacent to the railroad is one undulating plain—fine pastoral territory, I should imagine—

something different from the interior of Cape Colony. By midday the train steamed into the frontier station Vereeniging. In the olden days the Customs here were looked upon by English-speaking men as the worst in the world. On foreigners they were not so hard. From my own experience of four years ago I feel sure that the old Transvaal Custom officials located at this station could give the New York and certain continental Customs points, so eager were they exceeding their duty to the discomfort of the Uitlander of those days. A sense of gratification is felt now that

THEY ARE NO MORE.

The railway through the Orange River Colony has been fenced in by the military, and woe betide the Boer who is caught near it, or any other person, for that matter, who gets close enough to touch the wires. So far there is not a thing that would strike a South African as being very foreign, but once over the Vaal River, and there you have it. Of course it will soon be all altered; indeed, much has been done already. At the same time, one does not have to look very keenly for the evidence of "made in Germany." Even the semaphores work upwards instead of down. Allowing for the somewhat natural prejudice of an English-speaking man, I saw nothing in the Transvaal to which the foreign idea could be legally attached that looked very durable, except the railway itself; and I am inclined to say—not that I pose as an authority on rail-tracks—that the I.M.R. in their Transvaal road have the best in South Africa but one, the N.G.R.

Then, again, the Natal iron horse has almost impossible curves and seemingly more impossible mountains to negotiate, such as are not to be found in the vicinity of the Golden City, outside which tall iron smoke-stacks eject clouds of black smoke. Local coal is being consumed, you say to yourself; but what matters what coal to the old resident returning? The moment he has looked forward to for so long has arrived, and he is going to make the most of it. Johannesburg is the hope of thousands, and the home of thousands behind them. When will the hopes of the masses be realised? The time is not yet, I fear.

PRETORIA AT LAST.

On my right is a panorama of the city, while immediately on my left snorts No. 3 armoured train, duly named fore and aft "Cock o' the North." What more appropriate emblem? Large and small arms poke their noses outside the port-holes in the armour plating. Men with Scotch accents that you could cut with a knife, man the guns, and they chew and smoke ship's tobacco placidly. Fighting is their business. In all probability they have looked so long at the destruction and death that the weapons under their charge have barked forth that it is part of their every-day life now to kill or get killed. The "Cock o' the North" is no misnomer.

The Customs having duly labelled your baggage as "passed" (they do really label them—none of your chalked signs at Pretoria), you are at liberty to start forth on the conquest of the Transvaal capital. The first thing that drew my attention was "a milk shake" with the Stars and Stripes emblazoned thereon, while nearly opposite was the establishment of the Owl Drug Company. A notice over the electric bell calls on you to ring, but the "push button" is broken, and the Owl Drug Company itself *non est*. The sign, together with a few odds and ends and a few bottles of hair-tonic, is all that is left to denote that it was once a drug-store. There may be other stores connected with the craft in a like state, but this was the only one that came under my notice, and as it was the first one I confess it came as a shock. Further along is the Crow Pharmacy owned by Messrs. J. R. Jones & Co. (Limited), and almost next door the temporary home of the stranger in the land—to wit, the Grand Hotel. At the Grand they make a speciality of "doing" you from 20s. to 30s. per diem, but eggs are charged extra; while half a guinea would not buy a bottle of German beer when I, by sheer luck, found myself within its portals.

Underneath the hotel proper runs the sign "Directe Invoeders van Artikelen de Luxe," which is not quite truthful, as will be seen from the foregoing. Higher up the street you are greeted with "Transvaalsche Meubelmagarijn" (furniture-store); also acquainted with the fact that

in the vicinity "tobak en segaren" are to be had for a consideration. The "segaren" proved to be Transvaalers three for 1s. To my mind it was quite unnecessary to tax these 15s. per 100, as the Imperial authorities have done, for they are about the vilest imitations of cigars ever thought of.

I walked into one of Pretoria's principal hotels, and requested to be supplied with a glass of whisky.

"Very sorry, sir," said the man in charge, "but we are quite out of such liquids. The bar is only open for half an hour, and we can only supply lemonade, ginger-ale, Mason's essence, or Eno's fruit salt."

Hitherto I had always associated Eno's fruit salt with the drug-store, and Mason's with the housewife, but to find it being bottled, labelled, and retailed in an hotel at so much a bottle! Why, bless my ignorance! It is the whole temperance question in a nutshell—settled, too. Next day I walked boldly in and asked for a Mason's iced, in the same way as the Germans who sell drugs and chemicals on 'Change, and who read their *C. & D.* regularly, go into the lager-beer hall at the London Bridge end of Gracechurch Street.

The Editor instructed me to be sure and find out what immediate prospects there were of a

RESUMPTION OF TRADE RELATIONS,

and when I met a chemist who explained that he was occupied sorting 5 tons of goods out of 8 tons that he had remaining over of a shipment, the interest of my errand came back to me. I was on its track already.

"How many tons do you reckon on getting up this month?" I asked, eagerly.

"Couldn't give you an idea," he replied.

That was all the intelligence I got out of him. The fact is chemists have no wish to divulge just how they are situated in this direction—they evade the subject. I have been permitted to take from the Government statistics the exact figures covering importations connected with the trade for the three months ending September, 1901. They are, I consider, of decided interest. The aggregate value of the duties collected for the period under notice amounted to 133,307l. 16s. An advance of 25 per cent. for the three months ending December, 1901, may be confidently looked forward to, should military requirements in no way interfere with the present trend of events.

The returns are as follows:—

		Value
Acetic acid and vinegar ...	2,766 gals. ...	£584
Apothecary ware—Chemicals ...	— ...	19,350
Cyanide of potassium ...	77,841 lbs. ...	4,034
Quicksilver ...	— ...	224
Sulphuric acid ...	10,344 lbs. ...	159
Acids, other kinds... ..	— ...	174
Confectionery	199,238 lbs. ...	7,850
Glass bottles	8,501 doz. ...	991
Honey	7,044 lbs. ...	265
Hops... ..	35,273 lbs. ...	2,168
Mineral waters	685 doz. ...	149
Castor oil	1,287 gals. ...	451
Cocoonut oil	1,528 gals. ...	253
Lard oil	804 gals. ...	138
Lamp-oil	102,021 gals. ...	4,925
Linseed oil	2,156 gals. ...	337
Machine oil... ..	35,600 gals. ...	2,722
Sweet oil	2,354 gals. ...	773
Other kinds... ..	2,439 gals. ...	514
Sheep dip	540 gals. ...	129
Soap (common)	462,456 lbs. ...	5,578
Soap (toilet)... ..	22,618 lbs. ...	1,904
Spirit (perfumed)	571 gals. ...	1,451
Spirit (Oversea*)	27,167 gals. ...	16,363
Spirit (South African)	739 gals. ...	336
Tallow	30,201 lbs. ...	444
Turpentine	955 gals. ...	97

* "Oversea" doubtless infers for drinking-purposes.

The figures given are exclusive of importations for Field Force canteens, Relief Committees, Government and other stores imported as "Public Stores."

Unfortunately there is no prospect of a general surrender of those now in the field against us, consequently the opening-up of both the Orange River Colony and the Transvaal to civil traffic will be slow for some time to come. I would not like to go so far as to predict a date when manufacturers' representatives will be allowed in.

The Royal Arms.

MR. E. A. EBBLEWHITE, F.S.A., barrister-at-law, contributes to the *Ironmonger* a description of the Royal Arms and their use by tradesmen, which is of peculiar interest in so far as the writer, being a specialist in the subject, gives reliable and up-to-date information. The arms of King Edward VII. are accurately outlined in the following figure, and the heraldic description or "blazon," as settled by George III., is attached:—



Quarterly of four: first and fourth, ENGLAND—namely, gules three lions passant guardant in pale or; second, SCOTLAND—namely, or a lion rampant, within a double tressure flory-counter-flory; third, IRELAND, azure a harp, or, stringed argent: the whole encircled with the Garter. Crest: On the Royal Crown proper a lion statant guardant or, regally crowned also proper. Supporters: Dexter, a lion guardant or, crowned as in the crest; and sinister, a unicorn argent armed, crined and unguled or, gorged with a coronet composed of crosses patée and fleurs-de-lis, a chain affixed thereto, passing between the fore legs and reflexed over the back, of the last.

The plain English of this is that the shield is divided into four equal parts or quarterings, the first of which contains the arms of England—viz., on a red background, three gold lions walking (with the right paw raised), with their heads full-faced. These lions were devised for England on the second Great Seal of King Richard I. The second "quartering" gives the arms of Scotland—viz., on a gold background, a red lion standing on its left hind leg, and elevating both its fore legs, the right above the left; this lion is surrounded by a narrow red double border, decorated with *fleurs-de-lis*, or conventional lilies, placed alternately outwards and inwards. The third "quartering" contains the arms of Ireland—viz., a golden harp with silver strings, on a blue background.

The *garter* surrounding the shield is the insignia of the Order of the Garter. The ribbon is of dark blue, edged with gold, and the letters and buckle are also of gold. The motto of the Order, "Honi soit qui mal y pense," should be translated, "Dishonoured be he who thinks evil of it."

The *crown*, as here depicted, is the form chosen by his Majesty, to perpetuate the Tudor crown used by his predecessor in name, King Edward VI. In heraldry the crown is painted gold, with jewels in their natural colours, including the emerald "mound," or ball at the top, which supports the cross. The *cap* within the crown is coloured crimson (though the cap now actually in use is purple), and turned up below the rim of the crown with ermine.

The Royal *helmet* stands *affronté* or full-faced, and is entirely of gold.

The *mantling*, or ornamentation on each side of the helmet, is of yellow or gold lined with ermine.

The *crest* is a lion of England, similar to those in the first and fourth quarterings of the shield, standing on a Royal crown, and having another on its head, both crowns being precisely similar to the one just described.

To avoid so much repetition of the Royal crown, the large one shown over the "shield" in the illustration may be omitted when the "helmet" and "mantling" are omitted.

The figures on each side of the shield are the *supporters*, and should *support* the shield. In hundreds of instances these supporters are foolishly depicted either as lying down on either side of the shield, as if digesting a heavy meal, or as chasing one another round the escutcheon, which it is their duty to hold up. Had it not been for such inaccuracies in the public representations of these "supporters" during the eighteenth and first half of the nineteenth centuries we might have been spared the doggerel:—

The lion and the unicorn
Fighting for the crown;
The lion beat the unicorn
All round the town.

The "blazon" tells us that on the dexter (or right) side we shall find a *lion*; but, as a matter of fact, he is on the spectator's left. This is owing to a heraldic fiction that the whole design is turned round, and that the "dexter" or right side of the achievement is seen on your left. The lion is entirely of gold, full-faced, and crowned with the Royal crown like the "crest." The "supporter" on the "sinister" side (the reader's right) is a silver unicorn, with horn, mane, tufts, and hoofs of gold. Its neck is encircled by a coronet (similar to the circlet of the Royal crown) composed of *crosses patée* (i.e., crosses with expanding limbs nearly forming a square) and *fleurs-de-lis*, entirely of gold; and a gold chain hangs therefrom on the unicorn's chest, passes between its fore-legs and over its back, and ends close to the hind-legs. This "supporter" typifies Scotland.

In the *Compartiment* or gold scroll-work below the shield is the Royal motto "Dieu et mon Droit," which has been used by our Sovereigns for some four hundred years. This motto is usually painted in letters of gold on a white motto-scroll or, as in the reigns of the first three Georges, on a dark-blue scroll edged with gold. The "compartiment" also contains the Royal *badge* or emblem of the rose (for England), shamrock (for Ireland), and thistle (for Scotland) grafted on one stem—in allusion to the Union which was adopted by King George III. in 1801. In this "badge" the stalks, leaves, and sepals (or little leaves encircling the rose) are green. The flower of the thistle is purple, and the rose is a double one showing white petals within red ones.

The late Queen Victoria's crown was of the "Imperial" form adopted by her about 1886, and is shown in the adjoining figure: this should replace the "Tudor" form of crown adopted by King Edward in all representations of the late Queen's arms.



Queen Alexandra places the King's Arms in an oval formed by the "garter" on the left and the Royal Arms of Denmark in a floral oval on the right; the two ovals reclining against each other, the left slightly over the right. The crown and supporters (the latter standing on a gold "compartiment") are like the King's, but the other accessories are omitted.

The coronet of the Prince of Wales is like the Royal Crown, but with a single instead of a double arch, and the coronets in the crest and supporter are made to correspond. Over the Arms, on the shoulders of the two supporters, and on the shoulder of the lion in the crest, appears a silver label of three points or pendants. Similarly the coronet changes and the label varies in the achievement of the various other members of the Royal Family.

It was not until after the general removal of tradesmen's signs in London in the early part of the reign of George III. that Royal tradesmen began to distinguish their shops by putting up the Royal Arms and the words "By Appointment," thus indicating that they held a warrant of appointment to the Royal Household, which had been obtained from the "Board of Green Cloth."

These warrants are issued by the Lord Steward's Department (*Board of Green Cloth, Buckingham Palace*), the

Lord Chamberlain's Office (*St. James's Palace*), the Master of the Horse's Office (*Royal Mews, Buckingham Palace*), the Keeper of the Privy Purse (*Privy Purse Office, Buckingham Palace*), the Lord Chamberlain to Queen Alexandra (*Marlborough House*), and other Government Departments, and may be held "to the King," "to the Queen Alexandra," "to the late Queen Victoria," and to other past and present members of the Royal Family. All such warrants equally confer the right to use the Royal Arms—subject, of course, to the introduction of the proper marks of difference to indicate to which member of the Royal Family the appointment is held. No fees are payable by the tradesman to the Department issuing the warrant, nor do the Commissioners of Inland Revenue require a licence to be taken out by him for the use of the Royal Arms in connection with matters relating merely to his trade, as on bill-heads, trade-labels, &c., or on his shop-front.

The use of the Royal Arms without the authority of the King or any of the Royal Family is not prohibited, if the user does not employ them "in such a manner as to be calculated to lead other persons to believe that he is carrying on his trade, business, calling, or profession by or under such authority."

Orders for goods from tradesmen for the use of the Royal households come through the various departments referred to, and a tradesman who has received one or more such orders, if desirous of obtaining a Royal warrant, should apply to the head of the department for the privilege, though it does not by any means follow that the application will be successful. There is no difference in degree of importance between warrants issued by the several departments, except that the King's warrant-holders may claim precedence of the Queen's, the Prince of Wales's of the Princess's, and so forth.

New Books.

Any book named in this list can be supplied post-free to any part of the world on receipt of the published price by the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Brannt, W. T. *A Practical Treatise on the Manufacture of Vinegar, Acetates, Cider, and Fruit-wines, Preservation of Fruits and Vegetables, Meat, Fish, and Eggs.* 2nd ed. 9½ × 5½. Pp. xxxi + 555. Illus. 25s. (Sampson Low, Marston & Co.)

Brown, G. E. *Finishing the Negative: a Handbook of all the Processes between Fixing and Printing; with a Special Chapter on Films.* Illus. 8½ × 5½. Pp. 160. 2s. 6d. net. (Dawbarn & Ward.)

Connold, E. T. *British Vegetable Galls: Introduction to their Study.* 157 illustrations. 10½ × 7½. Pp. 324. 15s. net. (Hutchinson.)

Cooper, W. R. *Primary Batteries: their Theory, Construction, and Use.* 8½ × 5½. Pp. 330. 10s. 6d. net. (Electrician Office.)

Emery, W. D'Este. *Handbook of Bacteriological Diagnosis for Practitioners.* 7½ × 4¾. Pp. 232. 5s. 6d. net. (H. K. Lewis.)

Green, J. R. *Manual of Botany.* Vol. 2: Classification and Physiology. 2nd ed. 7½ × 4¾. Pp. 530. 10s. (Churchill.)

Hadley, W. J. *Nursing: General, Medical, and Surgical. Appendix on Sick-room Cookery.* 7½ × 4¾. Pp. 336. 3s. 6d. (Churchill.)

Quain's *Dictionary of Medicine.* By various writers. Third edition, rewritten and revised, with fourteen coloured plates and other illustrations. Edited by H. M. Murray, M.D., assisted by J. Harold, M.B., and W. C. Bosanquet, M.A., M.D. Pp. xviii. 1892. 21s. net. (Longmans, Green & Co.)

Remsen, Ira. *College Text-book of Chemistry.* 8¼ × 5¼. Pp. 710. 8s. 6d. net. (Macmillan.)

Rideal, S. *Water and its Purification.* Handbook for Local Authorities, Sanitary Officers, and others. 2nd ed. rev. and ext. 8 × 5. Pp. 362. 9s. net. (Lockwood.)

Sternberg, G. M. *Text-book of Bacteriology.* For Students and Practitioners. 2nd ed. Roy. 8vo. 26s. (Churchill.)

Williams, F. H. *Röntgen Rays in Medicine and Surgery: as an Aid in Diagnosis and as a Therapeutic Agent.* For Practitioners and Students. 391 Illus. 8vo. 8¾ × 6¾. Pp. 690. 25s. net. (Macmillan.)

Poppies and Opium.

By JOHN R. JACKSON.

IT seems but a week or two back, and yet several months have passed, since, in flying up from Devonshire on the South-Western line one of the most brilliant sights presented itself on the banks and fields in the neighbourhood of Basingstoke, in the form of a remarkably abundant crop of corn-poppies. The descending yet brilliant sun of a glorious summer evening intensified the brightness of the poppies' own colour, which made one reflect that this pest of the farmer would, if it were less common, be hard to beat as a garden-plant; and in this connection our memory travelled back to another display of poppies that had attracted considerable attention only a week



CORN-POPPY
(*Papaver Rhoeas*).

OPIMUM-POPPY
(*Papaver somniferum*).

or two previously in the Royal Gardens, Kew. In this case, however, instead of the scarlet blaze of the *Papaver Rhoeas*, a great variety of form and colour was represented by the numerous double varieties of opium-poppy (*P. somniferum*) that have of late years become so much cultivated in gardens.



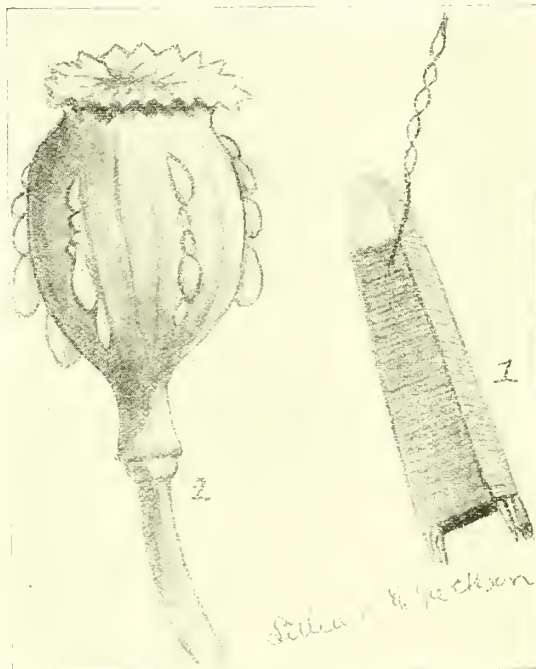
DOUBLE POPPY.

gardens, assuming, as it does, a variety of tints, which, together with its graceful and slender habit, justifies its

position. From a pharmaceutical point of view the white or opium poppy (*Papaver somniferum*) is one of the most important plants in the Pharmacopœia, yielding, as it does, opium with all its valuable alkaloids. Like its near relative the red poppy, it is found in cornfields and waste places, and though it is common enough in many parts of the British Isles, it seems to have no claim to the position of a British plant; its distribution having probably arisen from its cultivation in gardens, all the favourite varieties of double poppies being derived from it.

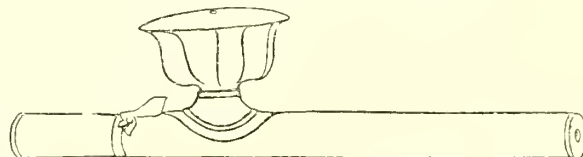
The home of this species is considered to be in all probability South-Eastern Europe and Asia Minor, but at the present time it is widely spread throughout Europe and Asia, N.W. Africa, and N. America. Its cultivation for the production of opium dates from an early period in Asia Minor and Greece, while at the present time the largest quantity of opium is produced in India, China, Asia Minor, and Persia. Though the quality of opium obtained from plants grown in temperate countries differs but little from those grown in hotter climates, the quantity is much less, so that the plants are grown chiefly for the "heads," the harvesting of which usually takes place in the early autumn.

Though the collection of opium differs somewhat in different countries, the principle is practically the same. Thus in India the heads are scratched longitudinally by little



1. LANCET USED FOR SCARIFYING POPPY-HEADS.
2. POPPY-HEAD SCARIFIED. OPIUM EXUDING.

lancets, as shown in the figure, while in Asia Minor they are incised spirally. The object is to cause the milky juice to flow outwardly and to partially solidify on the surface of the poppy-head, as seen in the drawing, when it is scraped off with a small iron scoop or spoon, and moulded in India into large balls, and in Asia Minor into irregular lumps. Though



PIPE FOR SMOKING OPIUM.

nothing new can be said on the subject of opium-smoking, it is not impossible that there are some of our readers who have never tried it, nor, perhaps, ever seen an opium-pipe. We therefore give a figure of one. The stem of the

original from which the drawing was made is of bamboo, and the bowl of red porcelain. Clasp the bamboo is a metal plate, into which the bowl fits, and near this plate is shown one of the nodes, or leaf-scars which forms a ring completely encircling the stem. The mouthpiece, with the central aperture, is of ivory, and on the top of the bowl is seen also a small aperture. A very small quantity of opium is placed upon this aperture and the lips applied to the extreme end of the bamboo tube. Meanwhile the bowl is held over a lamp, and the opium by this means kept alight. The pipes, of course, vary in style and elaboration, but the drawing shows one of medium quality.

With such attractions as poppies possess, besides their practical interest, it is not surprising that they have of late years become garden favourites.

Fictional Pharmacy.

A CLEVER psychological study by Mr. H. C. Rowland in the current number of *Munsey's Magazine* introduces the up-to-date bacteriological pharmacist. A young man is nervously pacing up and down in front of a drug-store, and finding himself afraid to enter. At length—

He caught his breath and dived suddenly into the shop. With a pale face, but steady steps, he walked back to the little window over which was the single word "Prescriptions." On the other side of the window there was another sign: "Bacteriological Examinations a Speciality."

He tapped smartly on the ground glass. It slid up, framing in the opening a pallid, peevish face.

"Have you examined the specimen I left here yesterday?" asked the man on the outside.

The peevish expression gave place to one of professional suavity.

"Yes, doctor—one minute, please. Let me see—479,385 yes, here you are, sir; thank you—call again, sir. We make a speciality of this work, and employ one of the best bacteriologists in the city. Good day, sir."

The young man shoved the yellow envelope into his pocket and walked out hurriedly.

He sits down presently on one of the benches in the park, and, although a brave man, who more than once in his life had calmly led his soldiers to seeming destruction, he finds it a hard struggle to tear open the envelope. He read what it contained:—

The paper lying crumpled in his hand bore the superscription of the laboratory, and, underneath, the signature of the analyst. Between were the words, "Specimen swarms with tubercle bacilli."

The bulk of the tale is an analysis of the feelings of the concerned man, for the specimen is his own. He first calls on an old friend—a physician in large practice and, on the pretence that the examination was made on behalf of another man, he obtains the doctor's verdict that the yellow slip is clear proof of the hopelessness of the case, as the pharmacists who made the bacteriological examination "are reliable people." He reads up the symptoms in the doctor's library after the doctor has left on his rounds, and afterwards strolls round to the office of his fiancée's father to tell him the news. He finds the old man immersed in business on account of a "panicky" market; so he writes several letters of farewell, and, after bidding the old man good-bye, goes out, resolved on suicide. He thought a narcotic would be the least offensive way out.

He wondered if he would have any difficulty in obtaining the drug. Then he happened to think of the druggist who had made the analysis. Good! They had taken it for granted there that he was a physician. They would naturally let him have it without asking any questions. His car took him to the door of the pharmacy. As he entered the shop, he wondered if it could really be the same day that he had been there before. Quietly he walked to the counter.

"I want an ounce bottle of laudanum," he said to the clerk. "Do you wish a prescription?"

The clerk had not been long employed in the store. "I guess," he began. "Just wait a minute, please." He walked back to the window marked "Prescriptions."

"D'you want an order for a bottle o' laudanum?" he asked, tapping on the ground glass.

"Who is it?" The slide went up smartly, and the pale face peered forth. "That gentleman down there?" A look of recognition came into his face. "No, that's all right—he's a

doctor. Oh, by th' way"—he came hurriedly out from behind the partition, and walked down to where Duncan was standing.

"I'm sorry, doctor," he began apologetically, "but after you left this morning I found I'd given you the wrong report on that specimen you left. I tried to find out where you lived, but had no way of going at it. This is yours."

He held out a yellow envelope.

The multicolored bottles on the shelves danced before Duncan's eyes in kaleidoscopic array. He gripped the counter till his nails cut into the flesh.

"What did you find?" he asked in a voice that seemed to him to come from a long way off.

"Nothing at all—didn't really expect to, from the character. What's the matter, sir?"

"Oh, nothing. I was pretty busy to-day, and went without my lunch. You ought to be more careful about the reports of those analyses. It's a very serious matter to report unfavourably. I'm not sure that you're not liable to a suit for damages."

"I know it, sir. I can't tell you how sorry I— You look very badly, sir; better let me send for a cab."

Duncan sank down on a stool.

"Yes," he said; "please call a cab." He drank at a gulp the whisky which the clerk had offered him at a sign from his employer. "And call a messenger, please—at once!"

He leaned over the counter and rested his head on his arms. A two-wheeler drew up at the door.

"Here's your cab, doctor. Oh, you wanted some laudanum?"

Duncan shuddered. "Never mind the laudanum," he said.

The objectionable part of the tale—from a pharmacist's point of view—is the imputation that an error was made by the pharmacist. In real life this, of course, would not occur, but in this instance we will allow it to pass for the sake of the stockbroker's charming daughter.

Lycoperdon.

MR. W. H. WAIND, of Hastings, sends us a photograph of an abnormal specimen of lycoperdon which he collected in Yorkshire last summer. It weighed 8 lbs. and measured 40 inches in circumference. The child's playing-ball placed at the side was about $4\frac{1}{2}$ inches in diameter.



The name giant puff-ball, usually applied to *Lycoperdon giganteum*, will be seen to be fully justified by this specimen. This peculiar fungus is by no means uncommon in pastures, and in its young state as it emerges from the grass might be mistaken for a true mushroom. It can readily be determined, however, by breaking in half, when it exposes a solid white flesh. Even if it were mistaken for a mushroom and

eaten as such, no harm would ensue, for though puff-balls are frequently shunned as dangerous fungi, to the expert cryptogamist they are included amongst the most delicious of the edible species, but it must be gathered when quite fleshy and white and cooked at once, for it deteriorates very quickly after gathering, and as it gets older becomes a mass of brown dust-like spores. Dr. M. C. Cooke, in his little book on British fungi, gives his experience of the economic side of the giant puff-ball. "A gardener brought us a large puff-ball equal in size to a large quarter-loaf, and which was still in its young and pulpy state, of a beautiful creamy whiteness when cut. It had been found developing itself in a garden at Highgate, and to the finder its virtues were unknown. We had this specimen cut in slices of about $\frac{1}{2}$ inch in thickness, the outer skin peeled off, and each slice dipped in an egg which had been beaten up, then sprinkled with bread-crumbs and fried in butter with salt and pepper. The result was exceedingly satisfactory; and finding this immense fungus more than our family could consume whilst it remained fresh, we invited our friends to partake, and they were as delighted as ourselves with the new breakfast relish, to them and to us, the first, but we hope not the last, experiment upon a fried puff-ball."

Though the chief economic value of this fungus at the present time is an article of food, it was formerly used to staunch blood and also as tinder. The fumes arising from the plant when burnt are said to have a narcotic effect, and it is sometimes used to stupefy bees to enable the honey to be taken.

Reviews.

The Nordrach Treatment for Consumptions in this Country How to Cure and Prevent Consumption and other Forms of Tuberculosis, together with a General Consideration of the Laws Governing Health. By JAMES ARTHUR GIBSON. 16mo. xvi + pp. 164. 3s. 6d. net. London, 1901: Sampson Low, Marston & Co.

THE author of this book is an Edinburgh chemist, who was cured of pulmonary tuberculosis a few years ago by the Nordrach treatment, and is now in better condition than ever he was before. His book comprises the articles on the subject which he contributed to the *Nineteenth Century* and the *Westminster Review*, but the articles have been largely re-written. The work is in four parts—viz.: (1) Description of the Nordrach treatment and (2) its practicability in this country; (3) the cry of the consumptives and (4) the open window. The author first describes his own case, and proceeds to give a great deal of information in regard to the open-air cure, including particulars of cases which have come under his own observation; instructions as to diet, clothing, and sleeping; with incidental remarks on the numerous empirical methods of medicinal treatment. From cover to cover the book is of great interest, and we are glad to note throughout it a cheerful, optimistic tone and a large-hearted sympathy, which make the book an eminently desirable one to place in the hands of those who are afflicted with consumption. There is no question in our own minds that the Nordrach treatment has been unnecessarily vilified by medical practitioners, while many who half believe in it persist in complicating the treatment with medicinal remedies, which too frequently retard recovery. There is no bacillus which is exterminated so easily as that of consumption, and the only microbicides necessary for this are sunshine and fresh air. That is the doctrine which Mr. Gibson preaches with a degree of hopefulness which is inspiring to the afflicted, and we cordially commend the book to his *confrères* as one which they may sell as well as read.

Hager's Handbuch der Pharmaceutischen Praxis. Von B. FISCHER und C. HARTWICH. Band II. 8s. Pp. 1,334. Berlin, 1902: Julius Springer.

SOMEWHAT less than two years ago we reviewed the first volume of the new and completely revised edition of Hager's "Handbook of Pharmaceutical Practice" (*C. & D.*, May 12, 1900, page 799). The recent appearance of the second volume, which in the meantime has been issued to subscribers in parts, and which now completes the work, affords an opportunity of again bringing it to the notice of our

readers. In our review of the first volume a brief account was given of its evolution from the original conception of Hager, as also of the plan, scope, and merits of the present edition, which has now attained such stately proportions. The two volumes are nearly equally divided with regard to the extent of the subject-matter, which is arranged in alphabetical sequence, the first including the letters A to G, and comprising 1,280 pages, whereas the second volume (H to Z) comprises 1,179 pages, exclusive of the index.

A survey of the contents of the work at once indicates its general thoroughness and completeness, since it includes nearly all the drugs and preparations which are of medicinal importance, and therefore of special pharmaceutical interest. The organic and synthetic chemicals which have been introduced as medicinal agents in such infinite variety in recent years also appear to have been very fully considered, and, in fact, within its pages information may be found concerning practically every subject which may be included in a highly diversified pharmaceutical practice.

In a work covering so large a field, and which has required so much time for its elaboration, it is not altogether surprising that there should be some deficiencies or actual errors, but it is evident that the number of these which may be revealed by a most critical inspection is comparatively few. Thus, on page 101, the so-called *Jaborins* is given as one of the constituents of pilocarpus-leaves, whereas it has been conclusively shown by Jowett that this substance is not an independent alkaloid, but simply an impure mixture. On page 625 the constitution of pilocarpine, as given by Hardy and Calmels, is still retained, although this has likewise been shown to be incorrect and without any foundation. On page 163 the use of the essential oil of *Juniperus virginiana* is referred to, but the true oil of the leaves of this plant appears to have been distilled but once, and what is commonly sold as such is usually the oil of *Thuja*, or, perhaps, a mixture of coniferous oils (see Schimmel's *Bericht*, April, 1898, page 13). Under potassium tartrate (page 219) it is stated that this salt, either in the form of crystals or powder, contains no water of crystallisation. It does, however, contain $\frac{1}{2}$ molecule of water. Lobelia (page 308) is stated to contain two alkaloids, lobeline and inflatine. The latter substance is not an alkaloid, but was shown some time ago to be phytosterin (Siebert, Inaug. Dissertation, Harburg, 1891). *Podophyllum Emodi* (page 689) is stated to contain only half as much podophylotoxin as *P. peltatum*. The conditions are actually just the reverse of this, since it has been shown by Henry that the Indian drug (*P. emodi*) contains from two to five times as much podophylotoxin as the American *P. peltatum*. These few inaccuracies are noted from the fact of having fallen under our personal observation, but they should not be considered as materially detracting from the great value and usefulness of this comprehensive work. The two volumes are clearly printed, well illustrated, and substantially bound. The very complete index should also be specially noted, since it comprises no fewer than 154 closely-printed large octavo pages, and reference to innumerable minor subjects is thereby greatly facilitated. We can repeat the hearty recommendation that was expressed in connection with the first volume, in regarding it as a work that is not only indispensable to every progressive pharmacist, but which will also be found extremely useful in many branches of applied chemistry. It worthily perpetuates the name of Hager, and reflects great credit upon the editors and their collaborators, who have so successfully accomplished their painstaking and laborious task.

MESSRS. BRÜCKNER LAMPE & Co., of Berlin, in their annual report state that the drug and chemical trade in Germany last year was not depressed to so great an extent as other branches of commerce. The demand for medicines is to a certain degree assured even in hard times, by reason of the public sick-fund societies, but in spite of this fact the consumption fell off considerably, which is of course attributed to the good public health and the prevailing commercial depression. People have had recourse to cheaper remedies where possible, and treatment by the Kneipp and cold-water cures has become popular. It is to be regretted that the flood of new remedies showed no abatement last year.

Legal Reports.

High Court Cases.

TREATT v. SAMUELSON.

IN the Chancery Division on Tuesday, January 21, the trial of this action was commenced before Mr. Justice Joyce. The plaintiff (Mr. Treatt) claimed to be entitled, under Section 35 of the Partnership Act, to have a dissolution of his partnership with the defendant, on the ground that Mr. Samuelson had committed a wilful and persistent breach of the partnership-agreement. The business carried on by the parties was that of essential-oil merchants.

In opening the case for the plaintiff, Mr. Hughes, K.C., said the conduct on the part of the defendant was such that the plaintiff could not reasonably be expected to continue the partnership. The nature of the breach alleged against the defendant was that he had persistently drawn from the partnership a great deal more money than he was entitled to draw.

Mr. Justice Joyce said he recollected some of the facts which had been disclosed to the Court when the matter came on as a motion. He suggested that it was a case for a settlement.

Mr. Hughes agreed, but Mr. Younger, K.C. (who appeared for the defendant), said there could be no settlement on the terms which had been offered.

Mr. Hughes went on to say that, prior to August 27, 1900, Mr. Treatt had carried on the business of an essential-oil merchant. Mr. Samuelson had been in the employment of the plaintiff as manager, and on the date mentioned it was agreed that the parties should become partners for fourteen years as from July 1, 1899. Mr. Treatt's capital was to be taken as an agreed sum, and he was to receive interest at the rate of 5 per cent. on it, and Samuelson was not to bring in any capital. Of the profits up to 3,000% plaintiff was to take four-fifths and Samuelson one-fifth, and Treatt was to receive three-quarters of the profits which exceeded 3,000% and Samuelson one-quarter. For the first three years Samuelson was to have at least 400% a year. If at the end of any year the net profits should not have amounted to such sum as that drawn out by a partner, the balance should be repaid by him. At the date of the partnership articles there was a sum of 924% due from Samuelson to Treatt, and the latter said it was arranged that the former should draw 8% a week, and that it was intended between them that the liability of 924% should be cleared up out of the remainder of Samuelson's profits. Defendant drew very largely in excess of 8% a week from the first, but Mr. Treatt did not discover it until April, 1901, when a balance-sheet as to March 31 was made out. This showed that the defendant had drawn 975%. Treatt remonstrated with him, and Samuelson expressed his regret, and a memorandum to the following effect was drawn up and signed by defendant:—

To give R. C. T. a life policy endorsed to him as covering 800%, to agree to draw at the rate of 8% a week from now to the end of 1901, and afterwards at 10% a week. I agree to the above, and the interest in the policy of 800% is transferred to R. C. Treatt until I am out of his debt.

Upon that footing Treatt went on with the business. In October, 1901, he again looked into the question of the drawings, and he found that from April to October defendant had drawn 493%, or drawings of about 70% a month. He did not concede that the repayment of the sum was any justification of the drawings. There were further remonstrances by the plaintiff, and ultimately he suggested that the partnership should be dissolved. The defendant complained that since the date of the dispute the plaintiff had sent out letters and had transferred the banking account of the partnership to his own name. He argued that that could not be a defence to the action even if Treatt had mistaken his rights.

Affidavits on both sides were then read.

Mr. R. C. Treatt, the plaintiff, said that on account of the drawings of the defendant in December last he had been obliged to borrow money to meet the requirements of the business. For that purpose he borrowed 1,500% from the London and County Bank on his own responsibility.

Cross-examined: It was possible that he had drawn 870% out of the company's account in the previous seven weeks.

He did not know whether ten days after the partnership was formed he drew 1,000% out of the partnership property and paid off a private debt of his own to the bank. The firm became liable to the bank for this 1,000%. The acceptance of June 10 was a four months' acceptance, which had been renewed at intervals from time to time, and 500% debt had been added. The amount was entered in the bank-book as a liability of the firm. The firm of R. C. Treatt & Co. owed him 1,500%, and he owed the bank 1,500%. The firm owed him 1,500% in addition to his capital of 3,000%. He deposited the deeds with the bank when he first borrowed the money, before the partnership. It was true that he had found money for the business which would not have been necessary but for the over-drawings of the defendant. He had brought the action with reluctance, and had been deeply pained to make suggestions against the defendant. He was not influenced by the fact that if he succeeded in getting rid of Mr. Samuelson in this action he would not have to pay him anything. He had known Mr. Samuelson for fourteen years, and during a large part of that time in his absence Mr. Samuelson had the right to draw on his banking-account, and sign his name in connection with the business. Before the partnership Mr. Samuelson had a percentage of profits. The partnership was entered into for the benefit of his wife and family and as a recognition of Mr. Samuelson's services. The agreement as to Mr. Samuelson's drawings was a verbal one, made a few days after the deed of partnership was signed. There was never any agreement as to his own drawings. The agreement was that the defendant should not draw more than 400% per annum. In his affidavit he said it was agreed that the defendant should not draw more than 33% 6s. 8d. per month. Under the articles of partnership Mr. Samuelson was entitled to 400% a year, whether there were profits or not, and the agreement not to draw more than that sum was in order that he might pay off the debt he owed. He did not remember whether it was before or after the execution of the deed that the conversation with reference to defendant's drawings took place. In his affidavit he stated that at the date of the partnership the defendant owed him 1,524% 2s. 6d., but the fact was that at that time he owed defendant 600% off that, and he regretted that he had not made that clear.

The further hearing was adjourned.

SECOND DAY.

On Wednesday plaintiff was again cross-examined. He stated that the agreement with defendant that the latter was not to draw more than 400% a year was made clear to the defendant, but the sum was not entered in the deed of partnership because he did not desire his solicitor to know the amount. He knew at the end of 1899 or the beginning 1900 that the defendant was drawing more than 400% a year. The witness was then cross-examined as to a number of transactions on the Stock Exchange in which he and defendant were jointly interested. He had lost confidence in the defendant.

Mr. Johnson, an accountant, gave evidence as to the accounts of the firm, of which he had prepared a summary for the use of the Court. He was examined at considerable length by Mr. Hughes in regard to the loans which plaintiff received from the bank (1,000%, ultimately increased to 1,500%). There was a good deal of discussion about this, the Judge occasionally going to the witness-box in order to examine the books of the firm; and after one of these journeys to examine Mr. Treatt's account, in order to see whether the interest on the loans was charged to it or the firm, he remarked: "It appears to me to be a voluminous account."

Mr. Younger then took up the cross-examination, and elicited from witness that Mr. Treatt's profits in March, 1900, were sufficient to pay 1,000% of the loan, but not 1,500%. Mr. Younger suggested that the money was paid out of the assets of the business, to which witness did not demur.

The Judge: It has been stated that 1,000% was paid by Mr. Treatt, but the books show that the firm paid it.

William James Fancourt, junior clerk in the employment of the plaintiff, said he had seen some of the invoice forms with the names of Treatt and Samuelson on them.

Did you strike out at any time the name of Mr. Treatt or

Mr. Samuelson?—I crossed out both names and put "R. C. Treatt & Co."

Did you do that by Mr. Treatt's instructions or not?—No.

Why did you do it?—As an experiment, in case the erasure of the name should eventually be wanted, and in order to see how it looked. Witness added that he had charge of the stationery of the firm. He sent out the invoice with the two names struck out by mistake. About eight invoices were treated in this way. At that time he had not been told there was any dispute between Mr. Treatt and Mr. Samuelson, but he understood there was. Cross-examined by Mr. Younger, witness adhered to his statement that he had altered the invoices on his own initiative as an experiment. He had done it on the morning of November 20 with a type-writing machine. He had not done more than eight, and at no other time. The two names had also been cut out from some of the printed forms, but he did not do that. He took the forms to be printed, and he did not think the names were blacked out then. He did not know by whose instructions the printers were told to print the invoices without the names.

The Judge: It is most extraordinary! [Counsel concurred.]

Mr. Alfred Thomas Field, a member of a firm of printers who printed stationery for the plaintiffs, said it had been the practice to have on their stationery the names of R. C. Treatt and B. Samuelson. He did not know that the names had been omitted, but they were omitted from some 500 invoices. He had no instructions to omit them.

Mr. Alfred G. Morris, in the employment of the firm as bookkeeper, said the books were audited until August, 1898, by the defendant's brother. The partners never signed the balance-sheets that were drawn up from time to time. There was no truth in the suggestion that Mr. Treatt forced the defendant's private drawer; the drawer was unlocked.

This closed the case for the plaintiff.

Mr. Younger, K.C., for the defence, called attention to the fact that the action was brought under Section 35 of the Partnership Act. If the plaintiff could get rid of the defendant under that section on the ground of misconduct, as he asked, the defendant would cease to have any interest in the business, and the plaintiff would get rid of him without any payment whatever. Ever since Mr. Treatt wrote these letters in November, and ever since Mr. Samuelson returned to this country Mr. Samuelson had remained away from the premises of the partnership, and Mr. Treatt had been left in sole and undisputed possession. From that time Mr. Samuelson had never purported or attempted to draw any cheque on the partnership-account. To succeed in the action Mr. Treatt must establish a wilful or persistent breach of the partnership-agreement, or acts which had amounted to a destruction of confidence, so that the business had become imperilled. The charge launched against the defendant was that of taking out of the business not only his own profits but Mr. Treatt's capital, and that to such an extent that the banking-account was not safe in his hands. Mr. Samuelson would be called to say what had been done, and when he had given evidence he should with confidence ask his Lordship to say that Mr. Treatt was not entitled to the relief he claimed, which would have such serious consequences to Mr. Samuelson.

The hearing was then adjourned.

The report of Thursday's proceedings will be found in our Coloured Supplement.

BERNHARD v. ERASMIC COMPANY (LIMITED).

IN the King's Bench Division of the High Court of Justice on Monday, January 20, the trial of this action came before the Lord Chief Justice and a special jury. The plaintiff, Mr. Edgar Hugh Bernhard, brought his action against the Erasmic Company (Limited), Warrington, claiming damages in respect of wrongful dismissal and for arrears of commission. The defendants by their pleadings justified the dismissal, but this defence was now withdrawn, so that the only question was the amount of damages. Mr. C. F. Gill, K.C., and Mr. Montagu Lush appeared for the plaintiff; Sir Ed. Clarke, K.C., and Mr. Shearman for the defendants.

In opening the case Mr. Gill said the defendants had taken the only possible course open to them by, at the very last moment, stating the question for the jury was the amount of damage to be paid to the plaintiff. The plaintiff

was a young man of 29 years of age who was educated at King's College.

The Lord Chief Justice asked whether, as justification had been withdrawn, the defendants could not go a little further.

Counsel having conferred, a settlement was arrived at.

Sir Ed. Clarke said he was glad to say that the time of the jury would be saved. But before stating the result arrived at he wished to say a word in justice to the plaintiff. He quite understood the desire that the matter should be investigated in court in order that there might be a report generally to show that there was no complaint made with regard to the plaintiff. Having regard to the circumstances of his dismissal from defendant's service and the statements which were then made, the directors were bound in honour, and he as their counsel ought on their behalf to say that they were not in a position to find any justification for the statements, injurious to the plaintiff, which might have been made. He had agreed that a sum should be paid to the plaintiff in satisfaction of all damages and costs in connection with the action.

Mr. Gill said the plaintiff was summarily dismissed by the defendants, for whom he had done valuable work, on information given to them that he had accepted commission. There was absolutely no foundation for this statement. Circulars were sent round to the trade in which it was stated that Mr. Bernhard had been summarily dismissed, and the result was, of course, disastrous to this young man. There was only one way to clear his character, and that was by having the case tried out in open court, or getting a statement which would place his character beyond suspicion, and the payment of such a sum by the defendants as would satisfy everyone that the company had done all in its power to remedy the wrong it had caused.

The Lord Chief Justice said the statement made by defendants' counsel amply justified the plaintiff in bringing the action, and made it impossible for anyone to say that he was not justified in so doing.

The jury having returned a verdict for plaintiff for 2,250*l.*,

Sir Edward Clarke said the defendants had paid into court 44*l.* 4*s.* 10*d.* in respect of arrears of commission, and this sum would be paid to the plaintiff in addition to the 2,250*l.*

THE KOKO COMPANY v. LUNGER & CADMAN.

THIS case was mentioned before Mr. Justice Swinfen Eady in the Chancery Division on January 17. Mr. Arthur Sims said there was an interim injunction against the defendant until that day, but they had consented to it being continued until February 1, and that the plaintiffs have till January 29 to file their evidence in reply. The injunction was allowed to continue accordingly.

[In regard to this matter our reporter writes: "The motion was a very short one, and the parties not wishing the case to be published did not state any facts."]

Pharmacy Act, 1868.

SALE OF EMERALD GREEN.

AT the Leeds City Police Court on Friday, January 17, before Mr. C. M. Atkinson, Taylor's Drug Company (Limited) were summoned for having (1) sold a preparation of arsenic without having labelled the wrapper, (2) sold it to a person unknown to the seller, and (3) omitted to make a proper entry in the poison-book. The prosecution was undertaken by Mr. T. Thornton (from the Town Clerk's Department), and Mr. John Harrison, ex-Town Clerk of Leeds, represented the defendant company. Mr. Harrison stated at the outset that he was obliged to admit that a technical mishap had occurred, and he suggested that this admission might save the time of the Court. The Stipendiary Magistrate, however, thought it would be better to have the facts related.

In laying the case before his Worship, Mr. Thornton stated that the charge against the defendants, who were store chemists, with their chief office in Guildford Street, was on three informations under Section 17 of the Pharmacy Act, 1868. An assistant inspector of Foods and Drugs, James Burke, visited the Waterloo Road branch of the defendants, and was served with $\frac{1}{2}$ lb. of "emerald green" in a wrapper which had no label on it.

Mr. Harrison interposed with the remark that it gave the name.

Mr. Thornton admitted that it did, but, he continued, there was no reference to poison. The assistant inspector was unknown to the defendants, and no entry was made in any book at all.

Replying to his Worship, Mr. Thornton stated that "emerald green" was a substance, the bulk of which was copper aceto-arsenite. It was commonly used for colouring walls.

Mr. Harrison: It is not a food or a drug.

Mr. Thornton went on to say that in the circumstances he did not propose to enter into the question of how far the health might be affected of any persons living in the house where the preparation was used. It was, however, a reprehensible practice to sell such a preparation to a person who had not the slightest idea that it was anything but a harmless preparation.

Mr. Harrison admitted a sale, but urged that the offence was purely a technical one. Prior to the purchase of the "emerald green" in question nobody in the world had any idea whatever that it came under the provisions of the Pharmacy Act. It was not a poison in the ordinary sense, which might be taken, nor was it in any way used either in regard to medicine or food. It was not that kind of article sold specially by chemists or by those who dealt in poisons, but was in reality the thing sold by painters for the most part, or by colour merchants. It might in some cases be kept in stock by druggists, but it was not the article dealt with by them as chemists. Many grocers, for instance, and others dealt in it, and its general use was to employ an Irishman for "white-washing." (Laughter.)

The Stipendiary: I do not know that you can make a distinction between poisons.

Mr. Harrison: This action is entirely new, as nobody considered it a poison before. Continuing, he said the shop where it was obtained was really a store; no poisons were sold at it, and this article certainly had not been considered generally in the trade as a poison. He believed that it was the first prosecution of the kind in the Kingdom; it was the first in Leeds, at any rate. He agreed that great care was important in dealing with such things, and instructions had been already given to the shops that the stuff was to be treated as a poison. In fact, in cases where the defendants did not keep a chemist they had withdrawn the article altogether. Mr. Harrison proceeded to observe that a company was not a person within the meaning of Section 17, but, he added, he would not take that point. It was not his desire to ride off on a technicality. His Worship would see from the wrappers that they bore the name of the sellers (Taylor's Drug Company), so that there was no concealment in the matter.

The Stipendiary Magistrate: There is no question of concealment; it is one of principle. Have there been cases of people poisoned?

Mr. Harrison: Nothing of the sort, sir.

Dr. Cameron, the medical officer of health for the city, stated, in reply to questions, that it was well-known that wall-papers containing arsenic were exceedingly dangerous, the malady taking the form of chronic poisoning.

Mr. Harrison: The next thing we shall hear of will be a prosecution by the doctor against wall-paper sellers.

Dr. Cameron added that wall-paper poisoning produced sickness and an affection of the eyes, the latter being a sort of inflammatory condition.

Mr. Harrison: I should think it rather serious to the nose. (Laughter.) The nose must be made to run. (Renewed laughter.) One has heard from childhood that green was considered to be deleterious.

The Stipendiary Magistrate: My impression is that it was the contrary. I always thought nature made so many things green because that colour was so refreshing and restful to the eye.

Mr. Harrison: Personally I have a decided preference for that colour. (Laughter.)

The Stipendiary Magistrate: Of course proceedings of this kind would not stop the use of the preparation; it would be only necessary to wrap it up in a particular form.

Mr. Thornton: It would give every purchaser notice that it is a poison.

Mr. Harrison: I suppose the only object of these pro-

ceedings is to call attention to the fact. We have sold this article for the purpose mentioned exactly as received from the wholesaler, and we acted quite innocently if we committed a technical mistake. It seemed unnecessary to take out three summonses.

Mr. Thornton intimated that he would be content with a decision on one of the summonses.

Mr. Harrison pointed out that the article was not in the British Pharmacopoeia or any of the druggists' text-books.

The Stipendiary Magistrate: I take it that the only object is to give publicity to the fact, therefore I think that the case will be met with a fine of 40s. on the first summons, and ordering the payment of the costs of the summonses on the other two.

Sale of Methylated Spirit.

ON January 14, in the Dublin Southern Divisional Court, before Mr. Byrne, K.C., Arthur Duignan, 97 Lower Leeson Street, Dublin, was prosecuted for having sold methylated spirit without being licensed. For the defence it was stated that Mr. Duignan had succeeded his father, who had been licensed. The licence had not been renewed because the defendant had forwarded the letters he had received from the Inland Revenue to his father, who had not replied. Mr. Byrne imposed a fine of 12*l.* 10*s.*

Sale of Intoxicating Liquor to Children Act.

WHAT IS A SEALED BOTTLE?

THIS question was decided by the Peterborough Magistrates on January 16, in a test-case brought by the chief constable against a well-known licensed victualler. A sergeant of police saw a boy under 14 with a pint of stout in a bottle. A piece of gummed paper was loosely placed over the cork. He took the boy and the bottle back to the trader from whom the stout was obtained and asked him "if he called that a sealed bottle." The landlord replied that he did, but seeing the label was only partly adhering he tore it off, and replaced it with another. The bottle had previously been corked so tightly that the boy's father had to use a corkscrew to remove it. The Chairman, after consultation with his colleagues, said they had come to the conclusion that the label was not a sufficient seal under the Act. The Act said the bottle must be "corked and sealed." The bottle was admittedly corked, but the label did not seem to be a sufficient seal, for it must have time to dry, and in most cases it would not adhere to a glass bottle. The chief constable said that the Licensed Victuallers' Association had now issued instructions to the trade advising that the bottles be sealed with sealing-wax or labels thoroughly dry before the bottles leave the house.—At Folkestone on January 15, a public-house keeper was fined 5*s.* and 15*s.* costs for selling a pint bottle of beer to a girl aged 8 years. Over the bottle was a paper label which was easily removed without destruction. The Court held that the Act required the bottle to be secured by some substance without the destruction of which the cork, plug, or stopper could not be withdrawn.

Sale of Food and Drugs Act.

NO APPEAL.

AT the North London Police Court on Friday, January 17, Mr. A. Mellor Bramall, solicitor to the Islington Borough Council, mentioned the soap-liniment case, in which Taylor's Drug Company (Limited) were defendants, which was dismissed on a legal technicality (see *C. & D.*, December 28, 1901, page 1004). Mr. Bramall now informed Mr. Fordham that the shorthand notes of his judgment had been laid before the Law and Parliamentary Committee of the Borough Council with a view to an appeal in the High Court; but the committee had decided to proceed no further—a result which he (Mr. Bramall) regretted.

Mr. Fordham: So do I, because I am satisfied that my decision would have been upheld. (Laughter.)

Mr. Bramall: It was, in my opinion, a debatable point as to the time when the proceedings did actually commence; and my submission then was that the secretary of the company had good notice of the action, and might have

fully protected himself to fight the case on its merits. However, there is to be no appeal, and there the matter ends.

SWEET SPIRIT OF NITRE.

THE supply of sweet spirit of nitre by wholesale chemists to the small village shopkeeper, and its retail by them often with a deficiency of nitrous ether, has engaged the attention of the justices in the Keighley district during the past few days on informations issued against the shopkeepers by the local inspector under the S. F. and D. Acts. In each case the plea was urged that the spirit had not been adulterated, and that owing to its extreme volatility it was almost impossible to keep the drug up to the B.P. standard. At Skipton the justices agreed that it was hardly to be expected that the village shopman could keep the spirit up to the standard, but said such a storekeeper had better not keep drugs at all if he could not keep them up to the standard. At Keighley the additional plea was set up—if not in express terms by implication—that spirit of nitre was a common household medicine, and it was highly convenient to be able to buy it at the village store. It was better to purchase the drug even a little under the B.P. standard rather than not to be able to procure it at all. It was urged further that on the ruling of the bench would probably depend whether these small dealers would continue to keep the drug. The bench showed some sympathy with the defence, but felt they could not allow sentiment to override the rights of the purchaser and obligations of the seller. They imposed a fine of 1s. and costs in each case. The wholesale dealer who supplied the spirit, Mr. W. Fowlds, Keighley, has since issued a public notice advising village shopkeepers to discontinue selling sweet spirit of nitre. It is practically impossible, he says, to keep sweet spirit of nitre up to the standard owing to its volatile nature.

BORATED SHRIMPS.

A LIVERPOOL fish-dealer last week was summoned for selling potted shrimps containing boric acid. The Inspector stated that the samples comprised 80 per cent. of shrimps containing 61 gr. of boric acid per lb., and 20 per cent. of butter containing 12 gr. of boric acid. The whole sample contained on the average 51 gr. of boric acid. For the vendor it was submitted that the adulteration was impregnated in the butter in which the shrimps were boiled and potted. Had it been possible, the vendor would like to have the shrimps and butter analysed separately. A fine of 10s. and costs was imposed.

TINCTURE OF OPIUM.

MR. WILLIAM BENTHAM, chemist and druggist, Bishop Auckland, was summoned on January 9 for selling tincture of opium which, according to Mr. F. W. K. Stock, the county analyst, was deficient in proof spirit to the extent of 22.72 per cent. Mr. T. C. Atkinson, chemist to Messrs. Bleasdale & Co., York, said Mr. Stock's analysis was based on the standard of 1885 instead of 1898. The Chairman said it would have been better if Mr. Stock had analysed the sample under the standard of 1898. The Magistrates suggested that the case should be withdrawn, which was done, each party paying his own costs.

CHEWING-GUM.

AT Tamworth on January 14, Josiah Morrall, shopkeeper, Glascoate, was charged with selling chewing-gum containing 16 per cent. of paraffin-wax. Mr. J. Matthews, who defended, submitted that chewing-gum was not a food. He cited the case of *Bennett v. Tyler*, which, he said, was precisely similar, and in which the Teddington Justices convicted, but the conviction was quashed by the Court of Appeal. The Bench dismissed the case and remitted the costs upon the defendant undertaking not to sell any more of the gum.

SWEET SPIRIT OF NITRE AND MILK OF SULPHUR.

At Boston on January 17, Wm. Lamplugh, chemist and druggist, Wide Bargate, was summoned for selling sweet spirit of nitre which was deficient in nitrous ether to the extent of 87.5 per cent., and which also contained 28 per cent. of excess water.

The same defendant was summoned for selling milk of sulphur which contained 48.5 per cent. of sulphate of lime.

After hearing the evidence, the Bench said they were quite convinced defendant had no intention whatever to defraud the public, but a technical offence had been committed, and he would be fined 5s. and 6s. 6d. costs in each case.

County Court Cases.

BREAKING THE AGREEMENT.

IN Durham Court of Chancery on January 17, before Mr. Milvain, K.C., an action was brought by E. H. Pollock, surgeon-dentist, of Sunderland, for an injunction to restrain Wallace Inman, an unregistered practitioner, from carrying on the business of a surgeon-dentist at Durham under the name and title of Mr. Pollock. There was a counterclaim of 200*l.* for damages by breach of contract. The defendant had been an assistant to Mr. Pollock, and when the latter left Durham to take up a practice the defendant bought the business. The complainant undertook (on a forfeit of 200*l.*) not to practise within six miles of Durham on his own account. The Judge refused to restrain the defendant from carrying on the business. The plaintiff had set up a rival practice within six miles, he said, and had broken the agreement. Judgment must therefore be for the defendant on both the claim and the counterclaim with costs.

A TRAVELLER'S CLAIM.

AT the Leicester County Court on January 17, before Judge Wightman Wood, Robert Stanley, commercial traveller, Leicester, sued Richard Hoult, trading as the Unique Trading Company, chemical-manufacturers, Doncaster, for the recovery of 50*l.* for breach of agreement. The case for the plaintiff was that in October last he was engaged on a two years' agreement as traveller to the defendant at 10*l.* a week, to include expenses, defendant to have the right to terminate the agreement at a fortnight's notice if plaintiff did not in any way get orders to the amount of 166*l.* On November 13 defendant wrote to Stanley telling him not to take any more orders, in consequence of the trouble he had had with the customers. Plaintiff had during the six weeks obtained orders to the amount of over 200*l.* In any case he was entitled to a fortnight's notice. Defendant, who had paid 1*l.* 18s. 5d. into Court, alleged that he had forwarded two cheques to plaintiff, which the latter denied receiving. Ultimately judgment was given for the plaintiff for 8*l.* 17s. 5d.

New Companies.

CHARLES BEST (LIMITED).—Capital 3,000*l.* in 1*l.* shares. Objects: To acquire the business carried on by Edgar H. Lancaster, trading as "Charles Best," and to carry on the business of manufacturers of and dealers in soda-fountains, patent soda-draught-taps, syrups, essences, &c. Registered office, 36-7 Whittall Street, Birmingham.

THIERRY (ADOLF) (LIMITED).—Capital 60,000*l.* in 1*l.* shares (40,000) preference. Objects: To acquire the business of manufacturers of and dealers in patent medicines, ointments, and other medicinal preparations, now carried on by A. Thierry at Pregrada, Austro-Hungary, and at 48 Brixton Road, S.W., and elsewhere, and to carry on the business of manufacturing, wholesale, and retail chemists and druggists, manufacturers of and dealers in pharmaceutical, medicinal, chemical, industrial, and other preparations, makers and vendors of patent medicines and proprietary articles, manufacturers of electrical, chemical, surgical, and scientific apparatus and materials, &c. The first subscribers are:—P. Warnford-Davis, Pomona Buildings, 61½ Fore Street, E.C., director of Parke's Drug-stores (Limited); W. B. Helsby, Thirlmere, Ashlake Road, Streatham, S.W., surveyor; J. Leighton, The Lawn, 137 Tulse Hill, S.W., director of Trades and Markets Exhibition (Limited); H. Steiner, 48 Brixton Road, S.W., manager; G. A. Upjohn, 6 Darent Road, Stamford Hill, N., clerk; J. D. Dencan, 65 Watling Street, E.C., solicitor; and S. Pennels, 87 Biscay Road, Fulham Palace Road, W., clerk. Minimum cash-subscription, 5,000*l.* The number of directors is not to be less than three nor more than seven: the first are P. Warnford-Davis, W. B. Helsby, J. Leighton, and H. Steiner. Qualification, 200*l.* Remuneration (except for the vendor's nominee, who shall be entitled to no remuneration), 300 guineas per annum, divisible, with an increase according to profits. Registered office, Aldermary House, 60 Watling Street, E.C.



Circulars and Price Lists.



THIS being the year in which Edward VII. will be crowned King of all the Britains, it is appropriate that the first special issue of THE CHEMIST AND DRUGGIST should be enclosed in a purely national cover printed in Royal purple and gold.

We are pleased to know that the insets which our friends in the wholesale trade are sending in this issue to our readers at home and abroad are well above the average in artistic excellence. We commend these to the careful attention of buyers. They represent good business and profitable commodities. The nature of the contents in each case is summarised below.

The next occasion on which circulars and price-lists can be received for insertion in THE CHEMIST AND DRUGGIST will be Saturday, July 26, 1902. Particulars of the charges are appended to the index to advertisements in this issue. This method of advertising is excellent, and those who are struck by it should communicate with our Publisher. He may be able to crystallise their ideas.

Aërotors (Limited),

120 Oxford Street, London, W., devote their inset to the announcement that the new Sparklet syphons can be re-charged at a cheaper rate than formerly. The syphon is a development of the aërotor principle which has a great future, and in this belief the company are preparing to make mutual arrangements with chemists for window-displays. (Pp. 32-33)

Allen & Hanburys (Limited),

Plough Court, Lombard Street, London, E.C., in a beautifully printed inset give particulars of the revision which has lately taken place in the minimum selling-prices of their specialities. The list was originally issued in 1895, but this year some twenty additions have been made, and in other cases the minimum retail prices have been raised. These alterations and additions are clearly set forth, and from their favourable bearing on chemists' prices should meet with careful consideration. Messrs. Allen & Hanburys' specialities are now on the protected list of the P.A.T.A. (Pp. 32-33)

Breffit's (Aire and Calder Bottle Company, Limited),

83 Upper Thames Street, London, insert a price-list of chemists' and druggists' bottles and glassware. The list is a 24-page supplement, the pale-green cover printed in gold making it distinguishable. A great variety of bottles are described and priced, three pages of illustrations making clear the textual portion. The list is alphabetically arranged, the sizes and prices being definitely stated; for instance, under "Limes or round-shouldered French vials," the prices of sixteen sizes are given in pale blue, white flint, or actinic-green glass, and also fitted with box-topped corks, ordinary corks, and with square-head or globe-head ground-glass stoppers. Under feeding-bottles "The International," "La Spécialité," and old-fashioned boat-shaped feeders are quoted, as well as the numerous component parts. The list is not, however, simply devoted to bottles, but contains

quotations for such things as corks, covered pots, funnels, honey-jars, measures, pomade-pots, syringes, and pill-tubes. It is a comprehensive list which is sure to be kept for reference, and is inserted loose so that it may be hung at the desk.

Brunner, Mond & Co. (Limited),

Northwich, Cheshire, urge mineral-water manufacturers to use bicarbonate of soda in place of the messy whiting which has been employed for years as a source of carbonic-acid gas in the preparation of aerated waters. It does not need any argument from us to convince chemists of the utility of bicarbonate of soda as a source of the gas, the complete conversion of the product being not the least of the many advantages offered. To show the simplicity of the process concise directions are given in the inset as to the manner of using "Crescent" soda, and now that the price of the chemical is so low, expense can no longer be pleaded by those manufacturers who are loth to make the change. (Pp. 64-65.)

P. B. Burgoyne & Co.,

5 Dowgate Hill, E.C., very effectively advertise their well-known Australian wines by the insertion of a representation of a bunch of grapes. Everybody will admire the page as a perfect example of three-colour process work, the modelling and the delicate bloom of the grapes give the impression that the real thing is being looked at. Messrs. Burgoyne have done so much to popularise the wine of our vast Australian empire that it is satisfactory to observe that they have been appointed "Growers to King Edward VII." (Pp. 64-65.)

Cantrell & Cochrane,

Dublin and Belfast, devote their inset to reminding chemists that their aromatic ginger-ale is the original of its kind, and the standard to which many competitors in vain try to attain. Thirty-two gold and prize medals is a numerical particularisation of the popular "scuttleful of medals," and it is an ideal which none but the best firm ever reaches. The facsimile label given is doubtless familiar to the majority of our readers, but another glance at it will serve as a reminder to beware of imitations. (Pp. 32-33.)

J. Defries & Sons (Limited),

147 Houndsditch, E.C., give particulars of the best known kinds of Pasteur (Chamberland) filters. Now that the public is so much alive to the necessity of germ-free drinking-water, greater interest is taken in choosing an efficient filter. The effect of passing polluted water through one of the Pasteur filters is to render the water sterile. The filters are supplied in all sizes up to the large installations required for town water supplies. (Pp. 64-65.)

Duckworth & Co.,

Old Trafford Essence Distillery, Manchester, let out a secret which aerated-water manufacturers will take advantage of. The inset consists of a lithographed design of shamrocks and an Irish harp, whilst five of the pages contain representations of Winchester quarts of the

"Shamrock" ginger-ale extract. The test of the ability of an aerated-water maker is, the inset informs our colonial and foreign readers, the quality of his ginger-ale. It follows that a manufacturer should spare no efforts to produce a well-flavoured ginger-ale, which he cannot do without using a high-class essence. The "Shamrock" essence is the outcome of a long series of laboratory experiments. The inset is placed in colonial and foreign copies only. (Pp. 32-33.)

Durafort & Son,

Paris, who are represented in this country by Mr. E. Schmolle, 42 Gutter Lane, London, E.C., remind our readers that their syphons obtained the highest award of the recent Paris exhibition. The inset shows the various styles of syphon-tops obtainable which can be taken advantage of to give a distinctive style to the waters sent out from particular establishments. A section of the new syphon top with a porcelain core is also shown, which gives a capital idea of the perfection which has been reached in syphon manufacturing. The only objection which scientific purists could bring against syphon-contained waters, the contact with metal, is thus done away with at a sweep. (Pp. 32-33.)

Elliman, Sons & Co.

Slough, give as an inset a picture in colours of a horse afflicted with most of the external ailments which that animal is subject to. The "bad unsound" horse is a *facsimile* of a showcard which is supplied to advertise the "First-aid Book" for horses. The Elliman first-aid book is in four parts, dealing with (1) horses, (2) dogs, (3) birds, and (4) cattle, and is supplied by a coupon-system, the necessary docket being attached to the wrapper of each bottle of Elliman's Royal embrocation. Any *C. & D.* subscriber will be supplied with the showcard on application. (Pp. 32-33.)

William Gardner & Sons,

Bristol Road, Gloucester, devote a four-page supplement to an abridged price-list of Gardner's patent "Rapid" sifters and mixers. From long experience this firm has been able to devise patterns of machines specially adapted for the uses to which the machines are put, using, however, the same general principles. Thus, for mixing baking-powder a pattern which both sifts and mixes is used, whilst if a powder requires a liquid flavour a form with an essence-sprayer is best. These and many other varieties of machinery used in grinding, powdering, sifting, and mixing drugs are enumerated on the illustrated inset, which gives, in addition, a few of the features which give Gardner's mixers a distinction over all others. (Pp. 64-65.)

C. J. Hewlett & Son,

wholesale and export druggists and analytical chemists, 40, 41, and 42 Charlotte Street, London, E.C., give particulars of their standardised tinctures in bond for export trade. The tinctures this firm send out have in the course of years obtained an enviable reputation, which has been built up by using pure grain spirit and drugs, and finally standardising the finished tinctures. Special terms are accorded to indents sent direct in the shape of discounts and free freight, packages, packing, and shipping and bond charges. The list enumerates some two hundred tinctures, but it will be noted that the special terms extend to drugs, druggists' sundries, instruments and apparatus, and dry-salteries, except that in the latter case the customer pays for freight. (Pp. 160-161, colonial and foreign copies only.)

McKesson & Robbins,

New York, U.S.A. (London agents, S. Maw, Son & Sons, 7-12 Aldersgate Street, E.C.), insert a

formulary and price-list of "McK. & R." ovoid capsuled pills. These pills are coated with gelatin only, and are of an oval shape to facilitate the operation of swallowing them. The point that these pills keep in any climate is forcibly brought home by a letter from Panama, in which it is stated that the pills keep perfectly in that notoriously damp climate. The formulary contains a selection of the more frequently wanted combinations of drugs in pilular form. (Pp. 160-161.)

Marshall's (Limited),

27 Red Lion Square, London, W.C., insert their price-list of toilet-preparations and perfumes. The list occupies twenty-four pages, with descriptions, illustrations, and prices of the various goods which are special to this house. The portion devoted to collapsible-tube preparations shows to what proportions the business in this style of package has been developed; not only are tooth-pastes and toilet-preparations put up in tubes, but boot-creams and medical soaps. The packed drugs and perfumery section contains such put-up articles as household ammonia, brilliantine, and cucumber and glycerin, as well as a selection of druggists' sundries, which includes many varieties of combs, and brushes, in most cases sent out with special arrangements for showing the goods on the counter or in the window. Sachets, a well-known feature of Marshall's, are presented in numerous dresses, the illustrations sufficiently explaining the *tout ensemble*. Lastly should be noted the "Sterling" tablet-machine, which is one of the most inexpensive of its kind, and Parker's essence of Jamaica ginger, for which, by arrangement with one chemist in each town, special terms are granted. (Inserted loose for hanging at the desk.)

Meggeson & Co. (Limited),

Miles Lane, Upper Thames Street, E.C., insert what is probably the most complete list of medicated lozenges ever put before the drug-trade. The sage-green cover conceals a forty-page price-list, printed on glazed paper and illustrated with many fine half-tone blocks of special lines. Pharmacopœia lozenges of both the 1898 and 1885 editions are priced, the strength of the active ingredient being stated in each case. The list of Throat Hospital lozenges has a useful key to the stamp marks, and includes the additions made in the hospital Pharmacopœia published a few weeks ago. The London Hospital lozenges, which are often asked for in some districts, are also quoted. This section is followed by a complete list of the many lozenges demanded in retail trade. Further on will be found priced lists of confectioners' sundries, compressed pellets, jajubes and pastilles, medicated pastilles, acidulated drops and tablets, medicated capsules, essential oils, aromatic and toilet distilled waters, concentrated perfumes, and special lines in lozenges and perfumery put up ready for retailing. The illustrations, being photographically prepared, are valuable as showing the style of the articles. (Inserted loose for hanging at the desk.)

E. Merck,

manufacturing chemist, Darmstadt, Germany, in an 8-page inset, gives an idea of the range of chemicals he manufactures. Alkaloids, medicinal chemicals, pharmaceutical preparations, photographic preparations, and laboratory chemicals are the sections into which the list is divided. In each section are enumerated the various chemicals which are special manufactures. Attention is also called to the publications, most of which may be had for the asking. The London address is 16 Jewry Street, E.C. (Pp. 160-161, in colonial and foreign copies only.)

A. & F. Pears (Limited),

71-75 New Oxford Street, London, W.C., insert a 4-page inset printed in red, green, and gold on thick paper. The front of the supplement bears the announcement that Pears have been appointed soapmakers by Royal warrants to the King and Queen. Inside the prices of the well-known soap are given, and an important statement as to the system of discounts by which a purchaser of 5/- worth of soap is put on an equality with all other buyers no matter how large the order. A replica of the Paris Exhibition gold medal is given on the back page, the Grand Prix obtained in 1900 making the twenty-first highest award representing the consensus of opinion of more than a hundred of the chief experts in the world. (Pp. 32-33.)

Robinson & Sons (Limited),

Wheat Bridge Mills, Chesterfield, in their attractive inset refer to the numerous surgical dressings they manufacture. One of the illustrations shows the style of packages adopted for lint, cotton-wool, tissues, gauzes, and bandages. The cartons of absorbent cotton-wool are a special convenience for retail trade. "Mene" towels for ladies are advertised in a novel manner by means of a representation of a bathing-machine with a door to open. "Look behind the door," as the inscription invites, and the particular advantages of the towels will be revealed. Cardboard boxes for various purposes are also illustrated, but the selection is by no means intended to suggest a limit to kinds made by Messrs. Robinson, for, whilst a large number of stock sizes and styles are obtainable, cardboard boxes for any purpose can be made to order. (Pp. 192-193.)

Shirley Brothers (Limited),

Whitecross Works, London, S.E., in an eight-page inset show that since their conversion into a limited-liability company they have not lost the personal characteristics of push and up-to-dateness. In the list will be found the specialities in successful side-lines, which have been a feature for some years side by side with the most recent introductions in feeders and soothers. Those chemists who prefer to put up their own specialities should note the series of ornamented tins on pages ii and iii. The appearance of a package of any ready put-up article is an important factor. Etienne Frères' perfumery, referred to on the end page, and the special bargains in assorted parcels, should not be missed. (Pp. 64-65.)

Spratt's Patent (Limited),

24 and 25 Fenchurch Street, London, E.C., in their inset wish their customers a successful new year and emphasise several points of interest to chemists and druggists. Packed cage-bird and parrot seeds, poultry-spice, and boxes of dog-biscuits, are some of the later developments of this firm which refer especially to chemists' trade. The offer to supply booklets on the management and treatment of dogs and on rearing chickens or cage-birds should be taken advantage of. The booklets are much appreciated by dog or bird owners, as it is difficult for them to obtain appropriate advice on their domestic pets just when it is wanted. "If herrings make bloaters what do Spratt's make?" is a conundrum which is nightly being asked before crowded audiences at the Drury Lane Theatre, which makes the present an appropriate time to show some of the dainty cardboard boxes of dog-biscuits, of which particulars are given on the back page. (Pp. 192-193.)

Henry P. Thompson & Co.,

93 Aldersgate Street, London, E.C., who are sole agents for Messrs. Bauer & Black, Chicago, U.S.A., give in a 24-page inset an idea of the class of goods they

are introducing to this country. The pale-green cover bears within a description of one of the most remarkable factories in the world for the production of plasters, cotton-wool, surgical dressings, suspensory bandages, and chest-protectors. Asepsis was the main thought of the builders of the factory, rafters and shafting were excluded, thus doing away with a great number of dust-traps, whilst the ingenuity of the engineers was devoted to the production of sterilising apparatus, so essential a part of surgical-dressings factories. The aseptic-room is supplied with sterilised air, and a good idea of this room and other parts of the factory is given by the photogravure illustrations contained in the inset. Four pages are devoted to coloured pictures of some special lines, and from these a fair idea is obtained of the style of the goods. Portraits of the men who have thought out and developed the business figure on one page, and another is devoted to the staff of twenty salesmen who divide up the United States between them in the interests of Messrs. Bauer & Black. (Inserted loose in home copies only.)

Tyler, Chas., & England Bros. (Limited),

79 Copenhagen Street, King's Cross, London, N., in their supplement enumerate the new mounts for 1902. The designs are very pretty and distinctly novel, and chemists, who hold practically the monopoly of the retail photographic trade, should particularly study this inset. Hand-cameras have had improvements added for the coming season chiefly in the form of more convenient fittings. The specifications of the "Empire" and "Champion" cameras give an idea of what is provided according to price. The "1902" Marvel sells at as low a price as 6s., and from the description given certainly does not seem to belie its name. (Pp. 64-65.)

The Vinolia Company (Limited),

Malden Crescent, London, N.W., provide us with the largest inset in this Winter Number. It is an artistic production extending to fifty-two pages, and containing descriptions and prices (with illustrations) of the company's chief products. The foundation of these was Vinolia cream, which still gets first place, and the list takes buyers through a range of toilet elegancies on to soaps, which occupy twenty pages of the list. Then follow more unique toilet-preparations, a selection of "Liril" specialities, perfumes, and other products—all priced for wholesale and retail. The list is inserted loose so that buyers may place it beside their order-book.

W. R. Warner & Co.,

British Depot, Francis Newbery & Sons, Charterhouse Square, London, E.C., insert a 16-page abridgement of their price-list of soluble-coated pills and granules, compressed tablets, effervescent salts and pharmaceuticals. The superiority of the "Warner process" of pill-making is summed up as giving pills which are soluble, permanent, pure, active, convenient, and efficacious, the aim being to compound the best pill possible. Glancing through the list we notice several new articles, and a new feature is introduced in indicating the articles not liable to stamp-duty. In this way Warner's lithia tablets, Tono Sumbul, and obesity-salts are shown to be exempt from medicine-stamp duty, and a note is appended to another article in reference to the recent fiat that "until relief is experienced" renders an article liable to duty. A new preparation in the list is digestive tablets, composed of pepsin, pancreatin, diastase and lactic acid, and sent out chocolate-coated, which is an attractive addition to the after-dinner medicines for promoting digestion. Popular non-proprietary pills are put up ready for sale in both bottles and boxes, some kinds of pills, such as "Blaud" pills, in several styles. Quinine pills

in flat slide boxes, each pill resting in a hole in a false bottom, are another attractive line, whilst the list of pills sold in bulk is both complete and in some respects unique. (Inserted loose)

Wright, Layman & Umney (Limited),

Southwark Street,

London, have an inset printed in violet ink, which contains reproductions of some of the labels and cartons they use on their packed pharmaceuticals. No one can deny that the labels are effective and make the packages attractive. Given the same care on the preparations as has been lavished on the labels and cartons, and ideal counter specialities result. The reputation of the firm is a sufficient guarantee that the goods are the best of their kind. The purpose of the inset appears to be to whet the appetite of chemists, so that those who desire more may write for the special illustrated list containing prices and other particulars of the perfected packed pharmaceuticals. (Pp. 160-161.)

Westminster Wisdom.

(By our Parliamentary Correspondent.)

THE NEW SESSION.

UNTIL the debate on the Address has been concluded it will be difficult to forecast the nature of the new Session of Parliament, and even then much will remain in doubt until the new procedure has been explained and adopted. At present all that can be said is that much legislation must not be looked for. As a prominent Labour representative remarked to me, "You cannot expect legislation so long as the war goes on." The war will certainly monopolise attention, and any time left will be needed—it may not be enough—for the Education and Water Bills. It is usually the case, however, that as the Session proceeds a few departmental measures—not mentioned in the Speech from the Throne—emerge, and towards the prorogation the Government either adopt or give special facilities for passing certain private members' Bills which have reached an advanced stage.

PRIVATE MEMBERS' BILLS.

The ballot for places for private members' Bills has resulted unsatisfactorily in so far as measures affecting chemists and druggists are concerned. As a rule only those Bills which secure the first ten places in the list have any chance of being discussed, and on this occasion all the coveted places have been allocated to Bills affecting other interests. It is possible, of course, that one or more of the ten may drop out, and in that case a chance will be given to Lord Cecil Manners' measure to secure the better training of midwives, and to regulate their practice. Mr. Tatton Egerton, who took some part in former discussions on the subject, had also put down a similar proposal, but he will doubtless join forces with his colleague who has obtained the better position. Another medical Bill, which is, in fact, an old stager, stands in the name of General Laurie. It is entitled "A Bill to extend the provisions of the Medical Acts, 1858 and 1886"—a somewhat vague description. The real object of the gallant general is to enable colonial practitioners to be registered in this country, and the Bill originated through the refusal of the Imperial authorities to accept the services for the Imperial troops of certain medical men who went out to South Africa with the Canadian contingent. These men were fully qualified in Canada; but the War Office requires that all candidates must be registered medical practitioners.

NO SMALLPOX LEGISLATION.

The Government do not intend to take any action, so far as legislation is concerned, in regard to the smallpox epidemic in the Metropolis. Answering a question put by Mr. Bartley, Mr. Long stated that he did not consider that any legislation was necessary.

PRESERVATIVES IN FOOD.

The President of the Local Government Board has been asked what steps he proposes to take in pursuance of the report of the Committee on Preservatives and Colouring-matter in Articles of Food, and his reply is that he has not at present arrived at a decision in the matter. The report is receiving his "careful consideration."

REGULATION OF SHOP-HOURS.

A statement made by Mr. Balfour on Tuesday bears out what I have said in the opening paragraph as to the hopelessness of expecting much legislation this Session. There will be no legislation in regard to the proposals of the Lords' Committee on the early closing of shops to the effect that towns should be authorised to pass provisional orders regulating the closing of shops on account of the existence of hours of work grievously injurious to health. In the meantime, however, Sir Charles Dike has introduced a Bill of his own on the subject.

PATENT LAWS.

In reply to Sir John Leng on Tuesday,

Mr. Gerald Balfour (President of the Board of Trade) said he proposed at an early date to give notice of his intention to introduce a Bill to give effect to the recommendations of the Committee on the Working of the Patent Acts.

In this connection it may be mentioned that the Patents Rules, 1901, under the Patents, Designs, and Trade-marks Acts, 1883 to 1888, have now been presented to Parliament, and copies will be available in a day or two.

THE HOSPITAL SHIPS AT PURFLEET.

Dr. J. C. Taresh, medical officer of health for Essex, called attention the other day to the outbreak of smallpox on the Essex coast, and attributed it to the presence of the hospital-vessels. The matter has now been brought before Mr. Long, who, beyond sending a medical inspector to communicate with the local authorities, does not intend to do anything in the meantime. He says that every possible step has been taken to find another mooring for the vessels, but without success. It is necessary that there should be easy communication with the shore, so that patients may be taken on board with the least possible difficulty. A suggestion has been made that the ships should be moved down into the sea-reach, where on either side of the river there is practically no population, but so far, as I have indicated, Mr. Long has not found this to be practicable.

IRELAND AND THE SUGAR TAX.

An attempt has been made to induce the Chancellor of the Exchequer to give up the sugar-tax in his forthcoming Budget in the case of Ireland, but, as the right honourable gentleman explained on Tuesday, his anticipation that it would be a continuing source of revenue is being realised, and he sees no reason to change his opinion. Up to the end of December about 232,000*l.* was collected in Ireland in respect of the tax.

THE TAXATION OF IMPORTS.

Mr. David MacIver has given notice of a motion on this subject. No date has been fixed for it, and a debate cannot be expected for many weeks. The motion much resembles several for which Sir Howard Vincent has made himself responsible in past Sessions, and it has as little chance of success. It seeks to declare that the increased revenue needed for naval and military purposes could best be obtained by *ad-valorem* duties of not less than 5 per cent. to be levied upon all importations of whatever description entering this country for purposes of sale, *bona-fide* passengers' luggage and private effects for owners' use alone excepted.

GOVERNMENT LYMPH.

Mr. Bartley is asking the President of the Local Government Board on Thursday if private medical practitioners are able to purchase Government lymph for those who are prepared to pay for vaccination.

Gazette.

Partnerships Dissolved.

Banks, L. H., Ormond, J., and Clinning, W. W., under the style of Banks & Co., Blackpool, mineral-water manufacturers.

Coleman, G. E., and Spink, W. L., under the style of Coleman & Spink, Hemsworth and Kinsley, Yorkshire, surgeons, &c.

Sissons, W. H., and Loveridge, W. G., under the style of Sissons & Loveridge, Barton-on-Humber, physicians, &c.

Smith, H. G., and Mansell, J., under the style of James Needham, High Road, Tottenham, N., mineral-water manufacturers.

Stanford, G., and Stanford, H., under the style of Stanford Brothers, Smethwick, aerated-water manufacturers.

Whitehead, J., Whitehead, R., Whitehead, and G. A., under the style of George Whitehead, Manchester, chemical manufacturers.

The Bankruptcy Acts, 1883 and 1890.

ADJUDICATION.

Thomson, Malcolm Edward, Northampton, surgeon.

Bankruptcies and Failures.

Re ALFRED McILAREN POST, 96 and 98 Leadenhall Street, E.C., managing director of A. M. Post (Limited).—The case of this debtor came before Mr. Registrar Brougham at the London Bankruptcy Court on January 17 in relation to his public examination. The accounts show total liabilities 8,293*l.* 9*s.* 9*d.*, of which 3,964*l.* 13*s.* 3*d.* is expected to rank, against assets 4,039*l.* 18*s.* 6*d.*, thus disclosing a surplus of about 75*l.* The debtor came over from America in 1894 with a cure for gout, rheumatism, &c., known as "Post's C.B.Q." In 1897 the business was taken over by A. M. Post (Limited), which company was registered with a capital of 10,000*l.* The debtor ascribes his failure to the policy of the directors in limiting the advertisements of the specific, the result being a very much reduced sale. He does not admit insolvency, and explains his appearance at the Court by his inability to realise his shares in the company to advantage and pressure on the part of creditors. Mr. C. A. Pope, Assistant Receiver, reported that the debtor had been given leave to proceed to America to enter into certain business negotiations. Under those circumstances he asked for the examination to be postponed until April. By consent of all parties an order was made in those terms.

Re THOMAS PHILIP GARRETT (trading as Garrett Brothers), 33 Commercial Street, Newport, Mon., Chemist and Druggist.—Under this recent failure accounts have been filed showing gross liabilities 4,331*l.* 16*s.*, and net assets 1,319*l.* 7*s.* 7*d.* From the Official Receiver's observations it appears that the debtor commenced business in 1882, when he joined his father in partnership. The partnership continued until his father's death in 1883. He continued the business on his own account until 1894. He did not contribute any capital on joining his father in November, 1882, but the business was solvent. From the year 1883 to the year 1892 he provided out of the business, under the terms of his father's will, 3*l.* per week for his mother and sisters. In 1894 he was joined in partnership by another person. The businesses were amalgamated, and the joint stock was valued at 2,800*l.*, the debtor in addition paying 400*l.* for his share of the lease and fixtures of his partner's business, and in addition paying 250*l.* into the partnership account as capital. The partnership continued until 1897, when it was dissolved, and the debtor agreed to pay 600*l.* to his partner to go out (150*l.* in cash and the balance by bills). No balance-sheet was prepared, but the business was solvent, after allowing for the 600*l.* to be paid to the outgoing partner. He continued the business on his own account until November 30, 1897, when he assigned his estate to a trustee for the benefit of his creditors generally, when his liabilities (including family claims hereinafter referred to) amounted to 4,922*l.* 7*s.* 2*d.*, and his assets to 2,273*l.* 10*s.* The business was carried on by the trustee under the deed of assignment until November 16, 1898, when the debtor arranged to pay a composition of 10*s.* in the pound by deferred payments extending over two years from March 22, 1898, and on November 9, 1899, the estate was re-assigned to the debtor (the composition having been paid), and he then continued the business on his own account until the date of the receiving order. About the year 1893 he received a sum of 1,500*l.* or thereabouts from the estate of a relative as next-of-kin, which he invested in his business. This sum was subsequently claimed by another person as being nearer of kin, and acting under the advice of counsel he compromised the matter with him, when so far as he can now remember, he paid about 400*l.*, the remainder being paid by his

two sisters, who received a similar share. A portion of this property is sub-let to various tenants for sums amounting together to 92*l.* per annum. The tenancy of his dwelling-house is in his wife's name, who pays the rent. He attributes his insolvency to "bad trade, severe competition, heavy rent and rates," and he states that he first became aware of his position in 1898, and has since then contracted all his present indebtedness, except family claims, hoping to be able to carry on the business at a profit.

Birth.

GRAY.—At Simla, Punjab, on December 9, 1901, the wife of James G. M. Gray, chemist and druggist, of a son.

Marriage.

O'SULLIVAN—DODD.—On January 11, 1902, at Banteer, co. Cork, by the Rev. E. McCarthy, of Newmarket, assisted by the Rev. Canon Morrissey, Denis H. O'Sullivan, L.P.S.I., Newmarket, to Mary, only daughter of Mr. William Dodd, of the same town.

Deaths.

BAILEY.—At Newark on January 11, Mr. William Bailey. Aged 24. Mr. Bailey served his apprenticeship with Mr. L. Priestley, pharmaceutical chemist, Newark, and about four years ago left to take a situation at Manchester. From there he went to the South London School of Pharmacy and subsequently took temporary engagements at Hitchin and Sloane Square, London, returning to his former situation at Manchester until August last when, after a short holiday, he again went to London to a school of pharmacy to study for the Minor examination. He went in for his final in January when not quite well and failed. This was a severe disappointment to him, and he went home to Newark where he took to his bed from which he never rose. His condition gradually grew worse and he died about a week afterwards from overwork of the brain and weak heart.

BRADBURY.—At Glossop, on January 17, Mr. Thomas Bradbury, chemist and druggist. Aged 45. Mr. Bradbury suffered greatly from pains in the head, and committed suicide in his back-shop by taking prussic acid.

BROOK.—At Rochdale, on January 15, Mr. Robert Brook. Aged 72. Mr. Brook was one of the oldest chemists in the Halifax district. He served his apprenticeship with the late Mr. Thos. Fardon, of Maidstone, and in 1855 he began business at premises in Silver Street, Halifax, in partnership with his brother William. About the year 1855 the partnership was dissolved and Robert took over the establishment. When the Silver Street premises were pulled down he removed to Central Street. He retired in 1896, his business at that time being the oldest established of its kind in the district. Mr. Brook took no active part in public affairs.

CAMPBELL.—On January 14, at his residence, Lower Sackville Street, Dublin, Mr. James Campbell. Aged 67. Mr. Campbell had been for a number of years manager for Messrs. Hoyte & Sons, City of Dublin Drug Hall. The funeral took place on January 17 last at Mount Jerome Cemetery.

FAWCITT.—At Manchester, on January 12, Mr. Thomas Christopher Fawcitt, chemist and druggist. Mr. Fawcitt, who died after a brief illness, was a native of Thirk, where he served his apprenticeship with Messrs. Foggett & Son, wholesale and retail chemists. He afterwards established himself in business at Manchester.

RICHARDSON.—The last member of the family of Richardsons, who for so long carried on business at Waterloo Mills, Hunslet, and East Street, Leeds, as drysalers and manufacturing chemists, died this week at his residence in Leeds. The deceased gentleman was Mr. Charles Christopher Richardson, who had attained the age of 71. He and his brother, the late Mr. Jas. Richardson, carried on the business as Richardson Brothers. The founder of the firm was Mr. Thos. Richardson. In 1865 Mr. C. C. Richardson retired, and has taken no active part in the business since. Mr. James Richardson died eighteen months ago at the age of 75.

TURNBULL.—At Radcliffe, on January 16, Mr. John Turnbull, manufacturing chemist and drysalter. Aged 55.

The Apprenticeship-question.

WE have received this week two papers communicated to provincial associations on this subject—one by Mr. J. Hutcheon, read to Edinburgh assistants last week, and the other read by Mr. J. G. Barry Noble to the Newcastle-on-Tyne Chemists' Association on Wednesday evening, January 22. We subjoin abstracts of both:—

MR. HUTCHEON'S VIEWS.

The position of the pharmaceutical student towards education and towards the Society was especially discussed. There are in the ranks of the profession, said the author, many who have not passed the Preliminary examination, and who in all likelihood never will. There are few students now entering the profession who have passed this examination, and the number of unqualified assistants will only tend to increase. How is this influx of insufficiently educated youths, who may ultimately form a thorn in the flesh of qualified pharmacy, to be prevented? And how is the profession to be made sufficiently attractive so as to draw to it that particular class who would be able to qualify? An adequate answer to the second question will also solve the first.

The Pharmaceutical Society has already made a marked advance towards making the profession more attractive by raising the standard of the Preliminary examination, but the duty of the Society does not end here. In the present condition of pharmacy it is a hard matter for the Pharmaceutical student to obtain during his apprenticeship the required education to enable him to pass the Qualifying examination.

Mr. Hutcheon proceeded to criticise rather scathingly the views of Mr. William Lyon on the subject as expressed in a three-column article in a contemporary, and proceeded to say that reform should come from the inside: external influences must not be allowed. Force alone can work the remedy. Pressure will have to be brought on the pharmacists—if not by the Pharmaceutical Council, then by the assistants themselves. The apprentice-difficulty is not one peculiar to the pharmacy profession. The Council is the body to whom pharmacists, as well as apprentices, have to look for salvation regarding the apprentice-question. If not the Council, some other authoritative body which may have to be put in its place if it be impotent. Government does not allow a pupil-teacher to work more than five hours per day, and gives him a fixed wage that is relatively more than that of the average pharmacist's assistant. A law apprentice has short hours, while the Law Societies and the Educational Institute of Scotland avail themselves of the teaching-facilities of the Universities, whereby the youth gets his business and theoretical training efficiently and simultaneously carried through. What, then, is the peculiarity that gives the pharmaceutical profession such a bad name, and keeps youths from entering it? It lies in the fact that the Council is a hollow mockery. It had better get its house set in order, or some upheaval may overthrow it. If a corporate body cannot control the individual members in the matter of apprentices, when not only teachers and lawyers but even bakers and plumbers can do so most effectively, that body is indeed powerless, and ought to be put out of existence. They must do something to fix the hours of work, supply methods of training, and regulate numbers, or the very life of the profession is endangered. The other result is inevitable. The profession will sink into darkness, and what will survive is a body of shopmen huxtering patent preparations at a grade of professional dignity no higher than the seller of bootlaces or ham and eggs. A powerless Council condemns itself.

It must be admitted by even the most enthusiastic scientific pharmacist that a great amount of his everyday business-work is of such a nature as may be quite well and very profitably carried out by unskilled labour. Let us protest as much as we may about raising the professional standard of the profession, the fact has to be faced that the tendency in the drug-trade is towards commercialism and, except in a few outstanding cases, away from science. At the same time, the advance of the sciences in their relation to pharmacy does undoubtedly necessitate among pharmacists

a thorough scientific education. We are thus between two extremes, and to bridge the gulf we would require a man as an ideal pharmacist who would combine in himself the capabilities for ordinary manual labour with the scholarship and training of a laboratory expert. This is not likely to be generally accomplished among the thousands who compose the trade or profession of pharmacy.

It comes, therefore, to this, that the supply of apprentices who will be in a position to present themselves for the Qualifying-examination will fall very far short of the demand. Two results may ensue—the recognition of the unqualified men and the diminution of the number of pharmacists qualified according to Society standards. The unqualified man will become a necessity. When he appreciates the fact he will raise his own value. He is quite capable of doing the drudgery work of the profession—the work which brings in the money. The day may not be far distant when the unqualified man may demand recognition by the Government, and perhaps obtain exemption from the Acts regulating the sale of poisons—our only stronghold. Mr. Hutcheon spoke as an unqualified man.

WHAT MR. NOBLE THINKS.

Three main issues, said Mr. Noble, have to be considered in dealing with this question. The first is, What is the cause of the present famine of apprentices? The scarcity began, he said, ten or twelve years ago. He pointed out that sons of professional men do not enter pharmacy, and by sketching an imaginary interview with the father of a Board-school boy, in which the parent was informed of the legal requirements, shop duties, premium, and the like, he made it fairly clear that the average father could not fail to conclude that something less exacting and more remunerative than pharmacy would be better for his son. Turning to the condition of the trade, he said it was not due to the Pharmaceutical Society, but that chemists as a class have hardly lifted their little finger to try to stop the flowing tide, and how can they expect the ship of pharmacy to sail straight with its captain and officers in the main cabin quarrelling over such things as the Glyn-Jones motion, and making a gold chain with a pretty badge at the end of it to hang round the captain's neck; whilst another portion of the crew is working hard to keep the ship from altogether sinking, and at the same time a third portion of the crew deserts the vessel and joins the pirates who, with unlimited guns, pour in their shot and shell of close-prices? It is this that has caused the apprentice-famine and the ruin of the drug-trade.

The second question was, What will be the final result if we do not replenish the ranks of our calling with new blood? To this he replied at some length, reviewing the conditions of pharmacy in Great Britain and Ireland, and pointing out that the non-recognition of the chemist and druggist class in Ireland after the 1875 Act passed led to the growth of that body, and their special recognition by the 1890 Amendment Act. He considered that the apprentice-famine and increased stringency of the Minor examination may give us a repetition in Great Britain of the Irish case. There is also, to his mind, another rock ahead which the pharmacy ship may have difficulty in clearing, and it is that the doctors will do the dispensing, and the wholesale houses the practical pharmacy, while the chemist will become a mere distributor of manufactured goods. What dispensing is left to be done will be secured by companies who keep dispensers, with qualification probably nothing better than the Apothecaries' certificate. We are already on that rock. Summing up this portion of his paper, Mr. Noble said:—

We shall have the following result: apprentices being scarce, a very large number of chemists will take boys of the errand-boy type, who will, after learning to be useful, take their place behind the counter, and they will in time grow in number and strength. The remaining chemists, who manage to get real apprentices and thoroughly teach them their profession so that in due course they will qualify, will be in the minority. Then we shall see the errand-boy variety demanding recognition, and the Government, finding that more licensed sellers of poisons are required than are being supplied, will grant the demand and give them such powers, provided they can show they have been for a certain time in the drug-trade, and can pass some simple examination such as the Apothecaries'. These men will form the druggists of the future, who will conduct open shops much the same as we do ours. It is their places to which the people will go for a penny-

worth of paregoric, a bottle of glycerin, or an ounce of Epsom salts; and competition will remain as keen amongst them as it is amongst ourselves, and perhaps more so. But above this class will arise a set of men who will be recognised as chemists—true chemists, not mere druggists—who have been through a thorough apprenticeship and passed the Major examination or an equivalent to it. The public will realise the difference between these two classes, and when Mr. Blank has a prescription to be dispensed it will be taken to the chemist. The chemists will take up analytical and other scientific work. In short, we shall have two classes—namely, pharmacists and drug dealers or druggists.

The third question was, How are we to remedy the evil, or, in other words, how are we to fill the present apprenticeship-vacancies? He considered that chemists as a class have most shamefully neglected the training of their apprentices, and that no one has a right to take an apprentice unless he is prepared to help him in the advancement of his studies—viz., teach him practical pharmacy, help him to master the materia medica of the Pharmacopœia and to have a ground-work of pharmaceutical chemistry. He enlarged on this matter, and, referring to what the Pharmaceutical Council might do, said he had written to every member of it, and from what he could gather from them the Minor cannot be divided without fresh legislation. [This we have shown to be incorrect, and several members of Council, as well as examiners, agree with us.—EDITOR *C. & D.*] Mr. Noble concluded by saying our duty amounts to this:—(1) We must abolish the premium system and give our apprentices a fair wage for their work. (2) We must teach them the art of pharmacy, and not bring them up as mere salesmen. (3) We must all join the Society, let the Council know what they have to do, and use our voting-papers to that effect. (4) The Minor examination must be divided, and in cases where the candidate has failed in one or two subjects he must have credit for those in which he has done well, so that he may be able to devote his study to the weak points.

Personalities.

MR. ARTHUR BELLAMY, chemist, Louth, has been installed Worshipful Master of the Lindsey Lodge of Freemasons.

ALDERMAN GEORGE EADE, chemist and druggist, Goswell Road, E.C., has been elected chairman of the Bartholomew Club.

MR. J. HINTON LAKE, pharmaceutical chemist, presided at the annual dinner of the Exeter Literary Society on January 17.

MR. JOHN MORGAN RICHARDS has purchased *Literature* from the *Times* and has incorporated it with *The Academy* under the title *The Academy and "Literature."*

MR. T. HORNER, for many years in Messrs. Kemp & Son's laboratory, Horncastle, is leaving at the end of the present month to take up a similar position with Messrs. Woolley (Limited), Blackburn.

MR. EDWARD EVANS, JUN., says the *Times*, has returned to Liverpool from a visit to the Earl of Rosbery at Dalmeny. During his stay there Mr. Evans obtained a promise from Lord Rosebery to address a Liberal meeting in Liverpool next month. On the occasion of Lord Rosebery's visit he will be the guest of Mr. Evans, at his residence, Spital Old Hall, near Birkenhead.

MR. EDGAR COHEN of Messrs. I. & M. Cohen, sponge merchants, Houndsditch, E.C., asks us to give an unqualified denial of the statement (*C. & D.*, January 18, page 90), that he is the head of a Cohen Syndicate which is working to break the bank at Monte Carlo. He has not been in Monte Carlo for three years. If we read the *Star* more frequently we would have seen there a brief interview which a *Star* representative had with Mr. Cohen, and which concluded with this paragraph:—

"The report is wholly untrue, and I cannot tell how it originated," said Mr. Cohen, when confronted with the account of his play at Monte Carlo. "I am not in any way concerned with the Cohen syndicate, and know nothing of it. Why, I have not been to Monte Carlo for years!"

Business Changes.

MR. SAMUEL TAYLOR has acquired the County Drug-stores, Weston-super-Mare, lately carried on by Mr. Smith.

MR. C. H. SMITH, chemist and druggist, late of Barrow-in-Furness, has opened a business at 11 Agar Street, Strand, W.C.

MR. T. R. OLDBURY, of Knighton, Radnorshire, has purchased the business of the late Mr. W. Owen Jones, chemist and druggist, at Much Wenlock, Shropshire.

MR. FRANK ELIJAH PALMER, chemist and druggist, who for some time has been managing one of Foo's branches, has commenced business at 168 Unthank Road, Norwich.

MR. A. BUSH, pharmaceutical chemist, late of Margate, has taken over the business, of Barnett, Newth & Co., at 97 Uxbridge Road, W., which he will carry on under the same title.

MR. RALPH M. LING, chemist and druggist, who for some years has managed the business of the late Mr. W. P. Hoare, Church Street, Cromer, is about to commence business at Havelock House, Cromer.

MESSRS. GOSTLING & Co., chemists, Diss, have purchased the business of Mr. Betts, at Framlingham, and it is rumoured they are about to acquire others in the district with the view to amalgamating all their businesses under the Limited Liability Act.

THE A. M. Todd Company (Limited) is a new limited partnership association, formed under the laws of Michigan, to succeed to the essential oil business of Mr. A. M. Todd, at Kalamazoo, Michigan. Mr. Todd will act as president and his two oldest sons, William A. and Albert J. are to be vice-president and secretary respectively.

THE Chemists' Defence Association (Limited) and the Proprietary Articles Trade Association are becoming quite professional, having deserted the street made notable by the *Star* for offices at 184 Temple Chambers, Temple Avenue, E.C., where barristers, scientists, solicitors and the like do congregate. The subscription to the P.A.T.A. remains 5s.

Practical Notes.

OIL OF WINTERGREEN.

M. A. PETIT, in a communication to the Society of Pharmacy of Lyon, proposed as the best means of masking the smell of oil of wintergreen the addition of $1\frac{1}{2}$ to 2 per cent. of oil of lavender.

ANTISEPTIC OINTMENT.

Microcidine (naphtholate of soda)...	gr. xlv.
Oil of geranium	5ss.
Oil of thyme	5ss.
Oil of verbena	5ss.
White vaseline	3xxxv.

The ointment possesses antiseptic qualities, and has been used in burns with good results.

ELIXIR OF PEPSIN.

THE following formula, by Mr. J. H. Hayden, is given in the *American Druggist*:—

Granular pepsin, U.S.P.	512 gr.
Granular rennet (concent.)	512 gr.
Distilled water	8 oz.
Glycerin	4 oz.
Deodorised alcohol	8 oz.
Detannated muscatel wine to make	4 pints

Mix the water and glycerin, add the pepsin and rennet, and allow them to stand for three or four hours, until they are apparently dissolved. Then add the deodorised alcohol and sufficient wine to make 4 pints. Mix with 1 oz. of talcum, and allow to stand a week and filter.

The wine is detannated with hydrated oxide of iron. If cherry is used in place of muscatel, 30 drops of oil of orange should be added to improve the flavour. To test the finished product add 1 dr. to 2 pints of fresh milk, previously warmed to 100° F., and stir; in fifteen minutes a firm curd should be formed.



TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects of general interest.

Opodeldoc.

SIR,—I have referred to an old dispensatory of the Royal College of Physicians of Edinburgh, and find the following preparation:—

Unguentum opodeldoch.
The ointment opodeldoc.*

Take of the roots of angelica, long birthwort, and masterwort each 2 oz.; of leaves of basil, sage, and wild thyme, as also of the flowers of rosemary and lavender, each 1½ oz.; of juniper berries, of bay-berries, and of cumin seed, each 1 oz. Slice and bruise the ingredients, all of them being taken dry, and pour thereon 1 gal. of rectified spirit; digest them without heat for three days in a close vessel; then set them in a warm *balneum marie* for some hours; afterwards press out the liquor, and add thereto 1 oz. of camphire and 2 lbs. of Venetian soap, cut into small slices; then with a gentle heat of a *balneum marie* digest all again in a circulating vessel, with the junctures luted till it becomes an ointment.

* The meaning of the name opodeldoch is not well understood, and was originally given by Paracelsus to a plaister which is very much recommended against ulcers, and which he seems to have judiciously applied as a surgeon; however whimsical he might have been in giving it this chemical title, according to his usual liberty in coining words, or transposing and changing their letters.

You will see by the footnote that Peter Shaw, M.D., editor of the above dispensatory translation in 1727, did not definitely know what opodeldoch should mean.

Yours faithfully,

R. G. EUSTACE.

394 King's Head, Chelsea, S.W., January 17.

SIR,—With an experience in at least four Scotch counties, I have been in the habit of selling as opodeldoc the plain lin saponis. The lin. opii I have been taught to sell as anodyne liniment. Considering that the laundresses here use lin. saponis along with turpentine to mix with their starch, I am afraid the guidman's collars would not be what he expects to see them. Steer's opodeldoc I have sold as a proprietary, but it was solid.

References: "Anodyne liniment—tinct. saponis cum opio, Edinr.," "Edinburgh Dispensatory"; "Opodeldoc—camphorated soap-liniment," "Medical Dictionary" (Dorland).

I may mention that I have met those who sold as elixir of vitriol the plain acid. sulph. dil., so that there are mixed views on the subject of the popular remedies.

Yours truly,

WM. R. KERMATH.

January 20.

SIR,—I have perused with much interest the discussion in your really valuable journal upon such an ancient preparation as "opodeldoc"—one of the oldest preparations asked for. The formula which Mr. C. O. Bell quotes is the formula given in Edit. IV. of the *Pharmacopœia* of the Royal College of Physicians, Edinburgh. I have acted both as assistant and manager for several years in the North and South of this country, and lin. saponis was always dispensed for opodeldoc, which, of course, as it contains all (or nearly all) the ingredients, has long since replaced the older formula. But the argument of that patriotic Scotchman, Mr. S. Lawrence, is really sufficient to make the old apothecary turn in his coffin. To think that a Shipping Act passed in 1867 could change the composition of a pharmacopœial preparation which was widely known and respected in the year 1770! "O Tempora! O Mores!" Mr. W. Lewis, in his copy of the *Edinburgh Pharmacopœia*, after giving the same formula as Mr. Bell, adds: "By occasionally adding tincture of opium to this balsam it becomes balsamum anodynum Bateanum, or Bates's anodyne." The "anodyne

balsam" in use at the Royal Hospital, Edinburgh, was made by mixing ½ lb. of liquid laudanum with 1½ lb. saponaceous balsam.

Yours faithfully,

Graiguc, January 20.

P. V. COYLE.

SIR,—My label will show you that our opodeldoc does not contain opium. Mr. Lawrence's letter explains why we are occasionally asked for "the dark kind," and supply lin. opii. To save any confusion as to light and dark it might be well if the B.P.C. gave a dictum. My knowledge goes back to the early fifties, and extends from Tweed to Kirkwall.

Yours, &c.,

DELTA. (129/24)

London Chemists' Association.

SIR,—I shall be glad if you will allow me in these columns to call attention to the first meeting of the London Chemists' Association, which will be held at the Holborn Viaduct Hotel on Wednesday, January 29, at 3.30 p.m. A good number of the gentlemen who attended the meeting convened in November by the Western Chemists' Association omitted to sign the attendance sheet, and it will be impossible to send them personally a notice of this meeting. Any registered chemist residing, or engaged in business, in or near London will be eligible for membership of the Association, and on behalf of the Committee arranging the meeting I wish to cordially invite the presence of all who are taking an interest in the formation of this new association.

Yours faithfully,

ROBERT H. JONES.

88 Norwood Road, S.E.

The Inspector of Measures as Materia Medica Expert.

SIR,—I am absolutely aghast at the judicial procedure which permits a person to be prosecuted for selling a drug because the functionary whose sole duty it is to collect the sample is allowed to state that it was "questionable whether it had any medicinal virtue," whilst he confesses that his sole ground for the statement was that he was ignorant of its properties, and failed to obtain information. Obviously, if I object, as a member of the medical profession, to an analyst posing as an expert on a question of pharmacology, my objections apply *à fortiori* to an inspector of weights and measures assuming that office. I am glad, however, that Mr. Sam Smith has relieved the analyst of the charge in good time, because I had intended bringing the matter before the Association. I must decline to discuss in detail the properties of almond oil against that of *Amygdalus persica* with Mr. Sam Smith or any other person whose knowledge of the subject is so hazy that he believes its use with syrup of violets is that of a laxative, or that some definite active principle differentiates the two oils, but I have had some considerable experience of both in medicine, and although I should not wish to have the one supplied if I specified the other, still I can detect no difference in therapeutics between good samples of either oil. I cannot but think that such a statement as Mr. Smith made in the summons was not only calculated to prejudice the case, but calculated to deceive the Magistrate into the belief that it was the mature and skilled scientific opinion of the medical officer of health, or at least of the analyst.

Yours truly,

J. C. MCWALTER.

Dublin, January 18.

Christmas Day at Ladysmith.

SIR,—Your DIARY for 1902 safely to hand on Christmas Day, in time to relieve the monotony of an otherwise long day's duty, which it did most effectually. Allow me to congratulate you on, if possible, exceeding the value of any of your previous issues. Pages 518-520 are worthy of being framed, and hung in the most prominent part of every drug-store.

Yours faithfully,

Ladysmith, Natal, December 27, 1901.

A. ADAMS.

Scotch Assistants.

SIR,—Your correspondent Mr. Lawrence is probably well within the mark when he says that for every English assistant working in Scotland there are fifty Scotch assistants in situations in England. This, I take it, is more an indication of business-shrewdness on the part of both English and Scotch assistants, than of any great difference

in their respective abilities. In support of this view, may I ask—

1. Are the salaries obtainable in Scotland likely to tempt any man to leave even a third-rate place in England?

2. Is any Scotchman (apart from purely personal reasons) likely to stay at home when he can do so much better further south? [Even after making allowance for increased cost of living, there is no denying salaries are much higher in England.]

3. Whether the professed preference for Scotch assistants on the part of one or two London firms is not entirely due to the fact that Scotchmen will engage for lower salaries than Englishmen will accept?

I know that the training (?) acquired in some town shops in England is far from satisfactory; but I fancy that, say, a Yorkshireman who has served an apprenticeship with a proper chemist will hold his own against an average Scotchman in any class of trade.

Yours faithfully,

L. S. D. (129/19.)

The Glasgow Faculty of Physicians and Doctors' Shops.

SIR,—I notice that your Glasgow correspondent states that certain licentiates of the Glasgow Faculty are appealing to that body to disregard the decision of the Medical Council regarding the "infamous conduct" of selling poisons, but he suggests that the Faculty will not move in the matter. This is not so certain. At a late meeting the President rather boasted in my hearing of their independence of the General Medical Council, and so far as I can gather that part of the charter which gives the Faculty control over the sale of drugs in Glasgow, &c., has never been repealed, though it was surrendered for the purposes of the Medical Acts as regards surgery, &c. Although I regard the Glasgow doctors' shops as a credit neither to pharmacy or physic, still, personally, on a question of privilege, I should vote that the Faculty should endeavour to reassert its old charter in this matter.

Yours faithfully,

January 20. F.F.P.S GLAS. (123/16)

[Replies to Correspondents next week.]

Trade-Marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with C. N. Dalton, Esq., C.B., Comptroller-General of Patents, Designs, and Trade-marks, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form J, cost 1*l.*, obtainable through any money-order office.

(From the "Trade Marks Journal," January 22, 1902.)

Combination of devices (the essential particular) showing horses in a stable; for a veterinary medicine. By H. Cumberland, Exbury Lodge, Catford. 242,318.

"WEEDICIDE" (no claim for "Weed"); for a weed-killer (powder). By the Thames Chemical Company, 61 Chancery Lane, W.C. 242,727.

"SCOTT'S NERVULINE" (no claim for "Nerve"); for a medicine. By T. L. Scott, Trimdon Colliery, co. Durham. 241,150.

"GLYCOPHOS" (no claim for "Glyco"); for a medicine. By Oppenheimer, Son & Co. (Limited), 179 Queen Victoria Street, E.C. 241,908.

Design of galloping horse and two beehives, with rising sun in the background; for wax. By Norddeutsches Honig & Wachs-werk, 6 Bahnhofstrasse, Visselhövede, Prussia. 242,027.

"JINGO"; for photographic goods. By Seabrook Brothers & Co., 21 Edmund Place, E.C. 241,800.

"RUTICO"; for photographic goods. By Rushbrooke & Co., 30 Moor Street, Birmingham. 242,391.

"SENAEB"; for an infant's and invalid food. By E. Beanes & Co., Falcon Works, Wallis Road, Hackney Wick. 242,437.

"DRAGON FLY"; for yeast and malt extract. By the Bakers' Supply Company (Limited), Bridge House, St. Philip's Bridge, Bristol. 242,647.

Device consisting of a picture of the "Happy Valley"; for goods in Class 47. By F. Maltby, Stanley House, Ainsdale, near Southport, soap-manufacturer. 241,260.

"VISKOSILINE" (disclaims "Visco"); for illuminating, heating, or lubricating oils. By Sands, Wilson & Co. (Limited), Birstall, near Leeds, oil and tallow merchants. 242,082.

Label with combination of devices (wording "Pyrola," Buisson Frères, London); for a perfume. By W. J. Bush & Co. (Limited), 28 Ash Grove, Hackney, manufacturing chemists and essential-oil distillers. 241,672.

"LO BAFO"; for a toilet-preparation for softening water. By Violet Vaughan, 10 Blenheim Street, New Bond Street, W., toilet-specialist. 241,773.

"GIMCO"; for incandescent mantles in Class 50. By the Guaranty Incandescent Mantle Company, 27 Balham Hill, S.W. 242,936.

Coming Events.

Notices of forthcoming meetings are inserted in this section free of charge. Secretaries should send such notices to the Editor of "The Chemist and Druggist," 42 Cannon Street, London, E.C., so that they may be received not later than Wednesday of the week of publication; if later, by telegram to "Chemicus London."

Monday, January 27.

Wolverhampton Chemists' Association. Annual meeting.

Tuesday, January 28.

Bradford Chemists' Association. Musical evening arranged by Mr. Arthur Hanson.

Glasgow Chemists' and Druggists' Assistants' Association, at 9.15. Mr. T. Maben on "The reign of law; being a plain statement of present day facts commonly ignored."

The Chemists' and Druggists' Society of Ireland, Whitehall Buildings, Belfast. Annual musical evening. Mr. James Tate, M.C.P.S.I., will preside.

Wednesday, January 29.

London Chemists' Association, Holborn Viaduct Hotel, at 3.30 P.M.

The London College of Chemistry. Annual dinner in the Venetian Chamber, Holborn Restaurant, London, W.C. Mr. Percy M. Thornton, M.P., will take the chair and present the prizes.

Public and Poor-law Dispensers' Association, St. Bride's Institute, Bride Lane, E.C., at 8 P.M. Annual meeting, when an address will be given by Mr. Duff on "The Aims, Organisation, and Extension of Our Association."

Nottingham Chemists' Association, Conservative Club Lecture-hall, Market Street, at 8.30 P.M. Mr. A. E. Beilby will give a lantern-lecture entitled "Old Belgian Cities."

Thursday, January 30.

Chemists' Assistants' Association, 73 Newman Street, Oxford Street, W., at 9 P.M. "Plant Misfortunes," by Mr. R. E. Lownsbrough.

Barnsley Chemists' Association, Royal Hotel, Barnsley, at 6.30 P.M.

Friday, January 31.

Royal Institution of Great Britain, Albemarle Street, Piccadilly, W., at 9 P.M. Professor A. Crum Brown on "The Ions of Electrolysis."

School of Pharmacy Students' Association, at 5.30 P.M. Mr. Mole will give a paper, "The Life and History of *Apis Mellifica*." To be illustrated by lantern-slides, &c.

THE Junior Pharmacy Ball will be held on February 26. Tickets can be obtained from Mr. P. Trick, Salisbury House, London Wall, E.C., Hon. Sec.

THE annual dinner of the School of Pharmacy of the Pharmaceutical Society of Great Britain is to be held in the Royal Venetian Chamber of the Holborn Restaurant on February 3, Professor J. Reynolds Green will be in the chair. Tickets, 5*s.* each, can be obtained from the Hon. Secs. of the Dinner Committee, 17 Bloomsbury Square, W.C.

"VETERINARY COUNTER PRACTICE."—The book is a valuable one, in not only the information it contains, but in throwing out numerous hints as to how the pharmacist may increase his trade in this particular field.—*American Journal of Pharmacy*.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C.: January 22.

This section of THE CHEMIST AND DRUGGIST goes to press a day earlier than usual this week, so that what follows here covers the markets up to Wednesday evening only. An account of the drug-sales will be found in the Coloured Supplement. The markets have generally been extremely quiet this week, and there are few changes in the drug and chemical markets. The principal alteration has been a reduction in cocaine, owing to a better supply of crude material. Hypophosphites are weak, owing to competition and the dissolution of the Convention. Lithia has also been further reduced. Ergot is unchanged on the spot, but there are lower offers from Hamburg. Shellac has been a dull and declining market, and quinine has been quiet but firm in view of the Amsterdam bark-sale to-morrow, the result of which will also be found in our Coloured Supplement. In essential oils, so-called "Wayne County" peppermint is firmer; lemon oil also comes a trifle higher from Sicily; and orange is about 6*d.* dearer.

Arrivals.

The following drugs, &c., have arrived at the principal ports of the United Kingdom from January 16 to 21, inclusive:—Aniseed (@ Libau), 104; arrowroot (@ St. V.), 227 brls.; arsenic (@ Oporto), 99 brls.; asafetida (@ Bunder Abbas), 400 cs.; bismuth ore (@ Antofagasta), 234 pkgs.; buchu (@ Cape Town), 23 bls.; camphor (@ Hamburg), 228; castor oil (@ Antwerp) 221, (@ Italy) 115 cs., (Fr.) 35 brls.; cinchona (@ Amst.), 30 bales; cocaine, crude (@ Callao), 3 bxs.; cochineal, 10; cod-liver oil (@ Aalesund), 144; colocynth, 13; chamomiles, 8; chillies, 93; cumin-seed (@ Malta), 87; ergot (@ Hamburg), 7; galls (Persian), 664 bgs.; gum arabic (@ Bombay) 8, (@ Alexandria) 500, (@ Trieste) 71 cs.; gum olibanum, 320; gum sandarac, 100; gum tragacanth, 122 cs.; gum, unenumerated (@ Bombay) 184 cs., (@ Persia) 810 cs. 607 bgs.; jaborandi, 3; jalap, 14; lemon-juice (@ Messina), 10; lime-juice, (@ Halifax) 97 hhdts., (@ Jamaica) 3 brls., (@ Dominica) 317 brls., (@ Trinidad) 24 cks.; lime oil (W.I.), 11 cs.; liquorice-root (Persian), 332; opium, (@ Amsterdam) 6, (@ Smyrna) 107, (@ Persia) 101; orris (Ital.), 85; potash carb. (@ Rouen), 7; potash chlorate (Swed.), 115 kegs; quicksilver (Ital.), 200; senna, (@ Bombay), 334, (@ Suez), 65 pkgs.; shellac, 1,206; button lac, 105; spermaceti (Amer.), 50; soda crystals (@ Gheut), 200 bgs.; squills (@ Malta), 21; turmeric, 71 bgs.; wax, bees' (@ Natal) 21, (@ Hamburg) 182, (Mor.), 31.

ACETANILIDE is dull of sale at from 8½*d.* per lb. for 1-cwt lots.

ACID, CARBOLIC.—The current quotations are as follows:—Ordinary ice crystals 34° to 35° C., 6½*d.* to 6¾*d.* per lb, and 39° to 40° C., 6¾*d.* to 6¾*d.*; detached crystals (B.P. quality), 8¾*d.* to 8¾*d.* per lb; crude 60 per cent., 1*s.* 10½*d.* to 1*s.* 11*d.*, 75 per cent., 2*s.* 4*d.* per gal.; cresylic 95 per cent., 8*d.* to 11*d.* per gal.

ALCOHOL.—German potato-spirit, druggists' quality (56 and 68 o.p.) for home use, is quoted 7½*d.* to 8½*d.* per proof gal. net delivered in bond in casks or drums. Perfumers' quality is 8½*d.* to 9½*d.*

ARROWROOT.—At auction on Wednesday St. Vincents was bought in at 1½*d.* to 1¾*d.* per lb. for fair to good; and Natal at 6½*d.* per lb.

ARSENIC.—Best white English powdered is quoted 16*l.* to 16½*l.* 5*s.* per ton in London, and 15*l.* f.o.b. Devon.

ASAFETIDA.—The s.s. *Afrikaner* from Bunder Abbas has brought 400 cases.

CALCIUM CARBIDE is quoted at 14*s.* 6*d.* per cwt., f.o.b., Hamburg, which price may be shaded for contracts.

CAMPHOR.—Refined German is tending firmer, and in second-hands, makers' prices are quoted—viz., 2*s.* 2*d.* to 2*s.* 2½*d.* per lb. There are sellers of Japanese crude at 15*s.* to 15½*s.* 6*d.* per cwt., c.i.f., being easier, but for parcels near at hand higher prices are asked.

The exports from Canton and Hong Kong to the Continent from January 1 to December 20, 1901, have been:—

	1901	1900	1899	1898
Boxes ...	3,202	21,491	15,772	16,174

COCAINE.—As anticipated in our last report, makers have reduced their prices, 3*s.* per oz., and now quote the hydrochloride at 17*s.* 9*d.* for contracts of 200 ozs. Pure is 2*s.* 9*s.* per oz. more. Supplies of crude cocaine have been more plentiful of late. It is also stated that another maker of cocaine has entered the field.

COCOA-BUTTER.—The auctions to be held at Amsterdam on February 4 will consist of 85 tons Van Houten's, 8 tons De Jorg, 4 tons Helm, 3 tons Betke, 5 tons Mignon, and 3½ tons foreign brands; while on the same date in London 90 tons Cadbury's will be offered.

ERGOT is unchanged on the spot, business having been done at 1*s.* 9*d.* for Spanish. From Hamburg the prices are a shade easier, and there are offers at 1*s.* 5½*d.*, c.i.f., or 1*s.* 5*d.*, c.i.f., from Spain.

GAMBOGE.—The scarcity has been relieved by the arrival of 16 cases new crop, which is the first shipment of any importance since 1897, and during the interval prices have risen from 9*l.* to about 13*l.* 10*s.* per cwt.

HYPOPHOSPHITES.—No official change in price has been announced, but the market is weak in anticipation of severe price-cutting between makers. The quotation for lime, soda, and potash in ½-ton lots is 2*s.* 9*d.* per lb. net.

JUNIPER-BERRIES are becoming scarce, and one holder has advanced his price to 12*s.* 6*d.* on the spot, and to arrive 12*s.*, c.i.f., is quoted.

LIQUORICE-ROOT.—In ordinary rough Persian further sales have been made at 6*s.* 6*d.* to 7*s.* 6*d.* per cwt. Clean-cut lengths are quoted 12*s.*, and decorticated is nominally worth 20*s.* per cwt.

LITHIA.—A further reduction has taken place, the quotation for carbonate in 2-cwt. quantities being 5*s.* 11½*d.* per lb. net.

MAGNESIA SULPHATE is quoted 47*s.* 6*d.* per ton in bags, and 52*s.* 6*d.* in casks, f.o.b., Hamburg.

MENTHOL.—A quiet market at from 14*s.* to 14*s.* 6*d.* per lb., spot.

OIL, ANISE, STAR.—Quiet, with sellers at 4*s.* 9*d.* to 4*s.* 10*d.* on the spot.

OIL, CASTOR.—Both French and Italian are tending easier, but there is no quotable alteration in price.

OIL, CINNAMON.—Genuine bark oil is quoted 1*s.* 6*d.* to 1*s.* 10*d.* per oz., according to quality, and leaf oil at 1¾*d.* to 2*d.* per oz.

OIL, CITRONELLA.—Business has been done in drums at 9½*d.* per oz., c.i.f., for January-March shipment.

OIL, COD-LIVER.—The reports concerning the new fishing are still meagre and of little importance. Quotation for best Lofoten non-congealing oil, which is very scarce, is unchanged at 69*s.* per barrel, f.o.b. Bergen, for old oil and 71*s.* for new. The exports from that port to date amount to 346 barrels, against 260 barrels at the same time last year. In London the quotation ranges from 70*s.*, c.i.f., upwards, but only a small business is reported.

OIL, LEMONGRASS, is steady at 7½*d.* per oz., spot, and to arrive 6*d.*, c.i.f., is quoted.

OIL, PEPPERMINT.—So-called "Wayne County" oil is firmer, with sales at 7*s.* 3*d.* per lb., spot, and the same figure has been paid for JBH "pure." HGH is unchanged and quiet, at 9*s.* to 9*s.* 3*d.*. Todd's "crystal white" is quoted 8*s.* 3*d.*, and "Rose Mitcham" 12*s.* 6*d.* per lb.

OILS, SICILIAN.—Orange is about 6*d.* dearer, one agent quoting 5*s.* 11*d.*, c.i.f.; bergamot is 7*s.* 3*d.* to 7*s.* 6*d.*, c.i.f.; and lemon has slightly advanced, 2*s.* 10*d.*, c.i.f., being quoted for a good brand.

OPIUM.—In Persian opium a good business has been done lately at about 9*s.* 3*d.* per lb., c.i.f., and 9*s.* 6*d.* to 9*s.* 9*d.*, on the spot. Full prices have also been paid for soft-shipping, which is quoted at from 14*s.* to 15*s.* 9*d.* for good to fine manufacturing kinds, and druggists' have been quiet.

SMYRNA, January 10.—The demand this week has been very active, English, American, and other buyers having come forward and purchased about 150 cases at full prices, principally for American account. From 8*s.* 1*d.* to 8*s.* 3*d.* per lb., c.i.f., was paid, according to quality. The market closes firm with buyers. The arrivals to date amount to 2,990 cases, against 3,748 cases at the same time last year. The conditions as regards sowings continue favourable.

CONSTANTINOPLE, January 17.—The only sales to report are 2 cases "soft"-shipping at 11*s.* 4*d.* per lb., and 4 cases "druggist" at 8*s.* 1*d.* This market has responded to the firmer tone ruling in Smyrna, and to-day sellers are not to be found at above prices. The weather has turned very cold, and should severe frost follow the young plants will suffer, and prices will, without doubt, rise still further.

ORRIS is very flat, and prices in Italy continue very low, one importer quoting 28*s.* per cwt., c.i.f.

POTASHES—Montreal are quoted 26*s.* 6*d.* to 25*s.* 9*d.* per cwt. for firsts, but seconds are unobtainable. *Pearl* is worth 40*s.*

QUININE.—The market in second hands closed rather dearer last week, about 20,000 oz. selling on the spot at 1*s.* 1½*d.* per oz., and this price has since been maintained. Business has been of small extent (owing to the cinchonauctions in Amsterdam to-morrow), and comprises March delivery at 1*s.* 1½*d.*, May 1*s.* 1½*d.*, and June 1*s.* 1½*d.* per oz. Messrs. C. M. & C. Woodhouse, in their latest circular, say that the tone of the market during the past month has been quiet, but very firm, and we have hardly any fluctuations to record in prices of second-hand quinine. Few holders can afford to sell at present rates except at a loss, and we are now approaching the season when exports of bark from Java usually show a material reduction, with a consequent advance in prices of bark and quinine. The feature of the market for some time past has been the absence of sellers.

SARSAPARILLA—None is to be offered in auction to-morrow. Privately a few bales of Lima-Jamaica are obtainable at 1*s.* 4*d.*, and grey Jamaica at 1*s.* 7*d.* per lb.

SENEGA—It is reported that practically all the available stock on offer in the North-West has been purchased by New York houses. There is a firmer tone about the market here, and 2*s.* 4*d.* per lb., net, is quoted by one holder.

SHELLAC has been a flat and declining market owing to a reduction in the Calcutta price of TN, which now stands at 66*s.* On the spot the value of fair second orange TN is now 118*s.* to 120*s.*, and a few sales have been made at about these figures. Futures have been quiet, the business done comprising January delivery at 119*s.*; March, 121*s.* to 122*s.*; May, 123*s.* to 124*s.* per cwt. The market closes dull and inactive.

SPICES—Singapore black *Pepper* is lower for arrival, business having been done at 6½*d.* per lb. for March-May shipment. At auction on Wednesday fair quality sold at 6*d.* to 6½*d.* per lb. A parcel of greyish Alleppy partly sold at 5½*d.* per lb. Penang was bought in at 5½*d.* per lb. A small lot of Singapore white, rather brownish, sold at 9½*d.* per lb.; fair quality is selling at 10*d.* and at 10½*d.* for January-March shipment. Penang is worth 9½*d.* on the spot, and 10*d.* for January-March steamer. All the parcels of Cochin *Ginger* were bought in; dull washed rough, new crop, at 50*s.*, good boldish washed rough at 52*s.*, bold rough at 55*s.*, and B cut at 72*s.* 6*d.* per cwt. Rough-limed Japan was bought in at 42*s.* per cwt. Zanzibar *Cloves* have been very quiet, the value for March-May delivery being nominally 4½*d.* per lb. Fair Penang were bought in at 7½*d.* per lb. *Pimento* dull, ordinary to fair was bought in at 3½*d.* to 3¾*d.* per lb. *Cinnamon-chips* were withdrawn at 2½*d.* per lb.

SULPHUR.—The total exports from Sicily from 1898 to 1901 were as follows:—

	1901	1900	1899	1898
Tons of 13 Sicil. cantars ..	461,466	543,632	470,965	443,711

The exports in 1901 to U.S.A. and Canada show a decline of 15,713 tons, France of 31,376 tons, Italy of 20,902 tons, Germany 6,532 tons. Great Britain increased her imports by 553 tons, the total being 23,189 tons, against 22,626 tons in 1900. The current quotations are as follows:—Foreign flowers, 6*l.* 7*s.* 6*d.* per ton; roll brimstone, 6*l.* to 6*l.* 2*s.* 6*d.*; recovered, 96*s.*, f.o.b., and best third's, 80*s.*, c.i.f.

SUGAR OF LEAD.—White is quoted 23*s.* 6*d.* per cwt., and brown 19*s.* 6*d.*, f.o.b. Continent, in 5-ton lots.

Heavy Chemicals.

The volume of business passing in the heavy chemical market has not yet grown in any great degree, but with home consuming trades fairly well employed demand for miscellaneous products is quite a moderate one, and in addition there are signs of it increasing. In the export line quietness is usual at this period with various ports still closed to shipments, but orders for forward requirements are being steadily booked. Demand against existing contracts keeps well up to the average. As regards values there is not much that is new or of special moment to be reported, prices for the most part being steadily maintained at late rates.

ALKALI PRODUCE.—Bleaching-powder for prompt is rather quiet, but there are fair inquiries in for forward, and in this respect more business is being done. For hardwood casks, f.o.b. Tyne or Liverpool, price is 6*l.* 15*s.* to 7*l.* per ton, and for soft-woods, free on rails, 6*l.* 7*s.* 6*d.* to 6*l.* 12*s.* 6*d.* per ton. Caustic soda is in much the same position as bleach, 76 to 77 per cent, 10*l.* 7*s.* 6*d.* to 10*l.* 15*s.* per ton; 70 per cent, 9*l.* 15*s.* to 10*l.* per ton; 60 per cent, 8*l.* 15*s.* to 9*l.* per ton. In saltcake there is little or nothing being done, and price is weak at 25*s.* to 26*s.* per ton, free on rails, in bulk. Chlorates are fairly steady, at 3*l.* and 3½*l.* per lb. for potash and soda respectively. Yellow prussiate of potash has maintained its late firmer tone, and is steady at 5½*d.* to 5½*d.* per lb. for best Lancashire makes. Ammonia alkali in steady request and firm, at 4*l.* 12*s.* 6*d.* to 4*l.* 17*s.* 6*d.* per ton in bags, free on rails. Soda crystals stand unchanged, at 62*s.* 6*d.* per ton, f.o.b. Tyne, and 67*s.* 6*d.* per ton, f.o.b. Liverpool, with fair general request. Prices and position of other products in this branch as lately reported.

SULPHOCYANIDES are without improvement either in value or demand. Potassium, 7½*d.* to 7½*d.* per lb. Ammonium, 95 per cent, 6*d.* per lb. Barium, 95 per cent, 4*d.* per lb.

ZINC SALTS have declined a little and are scarcely moving so well. Zinc sulphate crystals, 6*l.* to 6*l.* 2*s.* 6*d.* per ton. Zinc chloride solution, 100° Tw., 6*l.* to 6*l.* 5*s.* per ton.

BROWN ACETATE OF LIME.—Although in fairly good request, is in better supply, and price is rather lower at 5*l.* 5*s.* to 5*l.* 10*s.* per ton.

Cablegram.

HAMBURG, January 22, 146 P.M. :—Cevadilla is lower in price, 70*n* per kilo, being the most recent quotation. Worm-seed is scarce, and, therefore, firmer prices are the rule. The turpentine-market is excited.

Propyl Alcohol Pays Spirit-duty.

Recently the Customs authorities have been exacting duty on all importations of propyl alcohol. We have asked the Board of Customs upon what ground this duty is chargeable, especially if it is on account of any ethylic alcohol which it may contain. We have now received the following reply:—

Custom House, London,
January 21, 1902.

SIR,—I am directed by the Commissioners of His Majesty's Customs to inform you, in reply to your letter of the 10th instant, that duty has been charged on propyl alcohol at the current spirit-rate, as a form of spirit which Parliament has not exempted from duty.

I am, Sir, your obedient servant,

The Editor,
The "Chemist and Druggist,"
42 Cannon Street, E.C.

JOHN GATTING.

This seems to us a matter in which the Drug Club or the Chemical Section of the Chamber of Commerce might take action.

To Make Sulphuric Acid.

The extensive pyrites ore areas at Rowsell's Harbours, Labrador, that were owned by Joseph Ripey, of St. John's, Newfoundland, and others, have been secured by the Dominion Iron and Steel Company, who have sent a force of men and mining apparatus to work these deposits. The company intend to manufacture sulphuric acid on a large scale.